WERMA®

Leading signals.
Smart solutions.



General catalogue

WERMA®

General catalogue

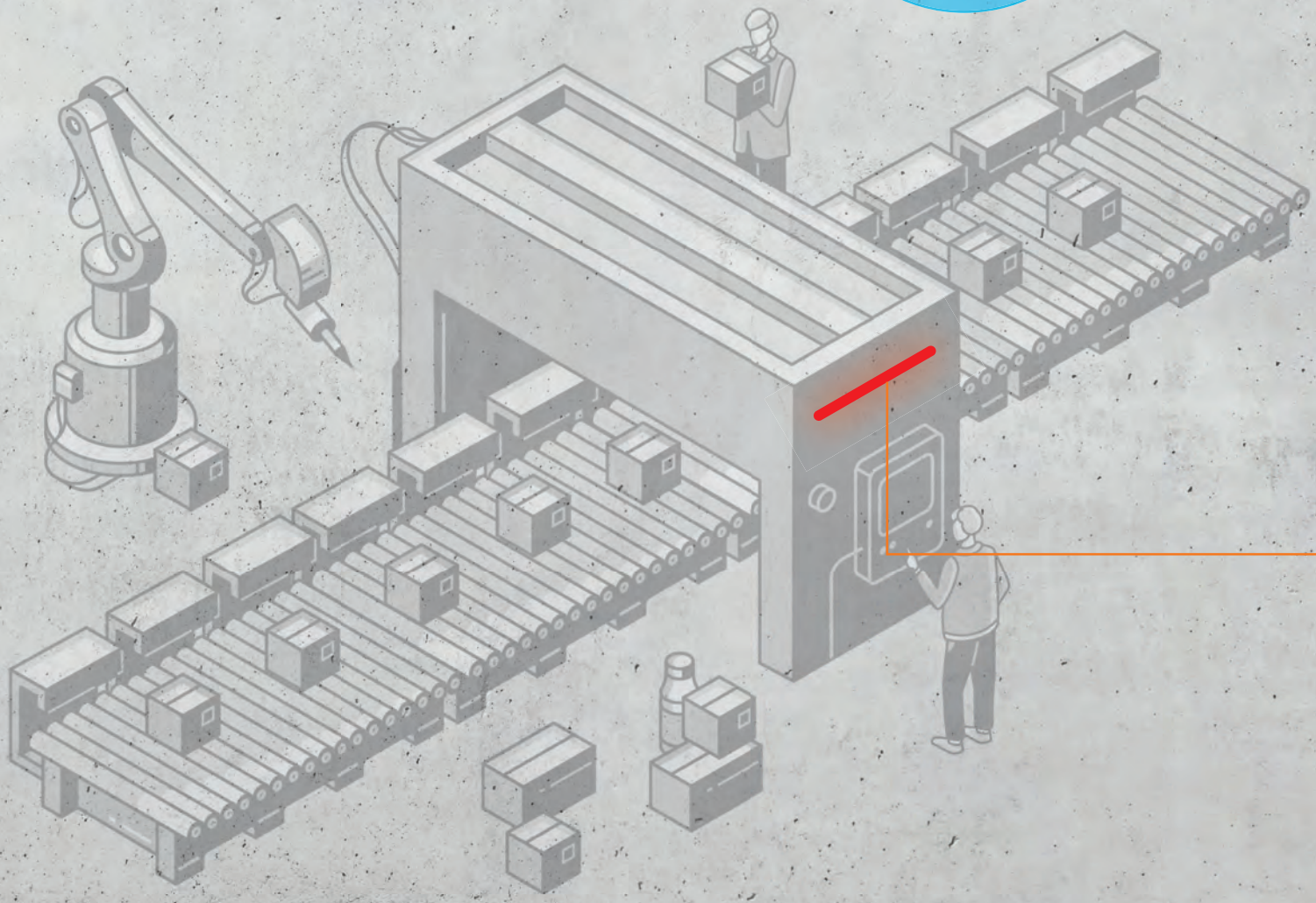
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The WERMA product range is completely tailored to the needs and applications of our customers from a range of industries. Compatibility, maintenance and optimisation, with a unique level of quality: This is what we call intelligent signal technology.

INTELLIGENT SIGNAL TECHNOLOGY

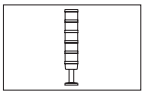
The products and solutions from WERMA make processes safe and keep them running efficiently. This saves you time and money and enables you to optimise your processes sustainably. Customers from various sectors all over the world have benefited from our expertise for years. Basically, because we offer clever solutions that work.



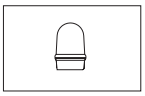

WERMA BENELUX bvba
Sint-Denijs-Westrem
(Belgium)
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Rietheim-Weilheim
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(Switzerland)
WERMA SARL
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Norcross
WERMA Italia
Piacenza
(Italy)
WERMA Co., Ltd
Shanghai
(China)
WERMA

General Information

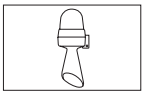
Key to Pictograms "Product Groups"



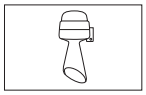
Product Group
"Signal Towers"



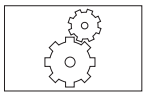
Product Group
"Beacons and Traffic lights"



Product Group "Optical-audible combinations"



Product Group
"Horns and Sirens"

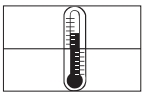


Product Group
"Systems"

Key to Pictograms "Product Descriptions"



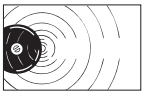
Protection rating according to EN 60 529. Explanation page 318



Working temperature in °C, highest and lowest rating



Net weight excluding packaging, in grams, ie. kgs



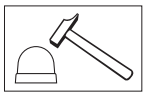
Volume in decibels (dB (A)) measured at 1m distance



Number of possible tones



Flash energy in Watt seconds (Joules)



Impact resistance in Joules

PLC

Suitable for triggering via PLC

Key to Pictograms "Marks of conformity and protection types"

CE

All WERMA products bearing the CE mark conform to current EU regulations and are tested for adherence to EMC codes.

IO-Link

Products marked with the IO-Link logo comply with the IO-Link specifications as defined in IEC 61131-9.

Products in compliance with the AS-Interface specifications (EN 50295, IEC 62026-2) and which have been certified by the AS International Association are marked with the AS-Interface certification logo (shadowed logo).

This mark confirms that the product is suited to the intended application and conforms to the relevant standards and guidelines. In addition, the technical specifications provided by the manufacturer are certified by the TÜV.

Products with this mark have been tested and registered by UL for the North American market. This certification is also valid for Canada. The WERMA production facility is audited by UL.

Products with the addendum "Class 2" may only be used in electric circuits that have been constructed in accordance with UL Class 2.

The Fraunhofer Institute certificate for production engineering and automisation (IPA) is a test label for products which have been qualified according to recognised standards and guidelines as to their objective suitablility for use in clean rooms.

The UKCA mark (UKCA = UK Conformity Assessed) is the new UK product marking required for certain products placed on the market in the UK (England, Wales and Scotland). It affects most products that previously required the CE mark.

The Eurasian conformity symbol EAC is granted by the customs union Russia/ Bellarussia/Kazakhstan. The EAC symbol confirms that the product has undergone the conformity procedures and has met its technical requirements.

German Lloyd sets technical, quality and safety standards for the industrial and maritime sector.

In addition to the classification of ships of all types, German Lloyd is also active as a world-wide technical monitoring society.

The special organisation of the United Nations has given the ICAO (International Civil Aviation Organisation) the task of establishing and developing uniform regulations governing the safety and economic viability of civil aviation processes. The guidelines of the ICAO will only be applicable to all member states but must also be transferred into local statutes of law.

General Information

General notes on catalogue descriptions

Sound levels and frequencies

The specified sound levels are based on tests carried out in our factory. These levels are typical for the specific products and inevitably subject to variation. Mounting position and/or type can alter specifications.

The rated frequencies of buzzers are also dependent on the tolerances of the individual components and can vary up to 500 Hz from the quoted rating. No frequency rating can be stated for horns as the spectrum is so wide that any stated rating cannot be accurate. The fundamental frequency for AC devices is 100 Hz, for DC devices c. 200 - 500 Hz. This means that they emit a deeper tone than piezo devices which have values typically between 2000 and 3000 Hz.

Current consumption

The current consumption levels quoted are standard values. The ratings are based on the virtual value for AC, i.e. the average value for DC.

The measured value is normally calculated over a period of 10 seconds. The peak current consumption rating can be considerably higher than the calculated rating.

The start-up current of a product can be ten times greater than the rated current.

Assured values

The technical specifications of our products have been rigorously and thoroughly tested. A quality guarantee according to § 463 BGB is however only applicable where expressly stated.

WERMA is only liable for damage arising from the failure of guaranteed properties when the guarantee was expressly intended to protect the customer from this damage.

Measurements, weights, ratings and illustrations are subject to technical amendment.

Product descriptions

The product descriptions found in the price list and on all documents are made up of the following information:

Product type:	**Fixing:**	**Tone type:**	**Voltage:**	Colour:
Electronic Buzzer	BM = Base mounting	32 tones	12 V	BK = black
LED Permanent Beacon	BWM = Base/Wall mounting	4 tones	24 V	BU = blue
	EM = Installation mounting	etc.	115 V	CL = clear
etc.	RM = Tube mounting		230 V	GN = green
	WM = Wall mounting	alternating		GY = grey
		cont./pulse	etc.	RD = red
		continuous		YE = yellow
		pulse		WH = white
				MC = multicolour

Examples: Electr. Buzzer EM Continuous tone 115 V AC
LED Permanent Beacon EM 24 V DC RD

Note: Colour order of a signal tower from the bottom to the top

MTTF values

"MTTF" is the abreviation for **Mean Time To Failure** and is also described as the average life cycle or **"$MTTF_d$"** (= the average time until failure leading to a dangerous situation).

The European Norm **EN ISO 13849-1** has caused a new significance to be attached to "MTTF" values, because they are used to evaluate machine safety within the conformity tests.

The MTTF is a statistical value, which is calculated by **means of testing or experience** of past values. It does not provide a guaranteed life duration or a guaranteed functional period.

MTTF values have been calculated for a variety of **WERMA products**. Please contact us for further details.

Protection ratings

Protection ratings for signal devices: Protection ratings for housings DIN EN 60529 (DIN VDE 0470 IEC 60529).

First digit: degree of protection against contact with dangerous parts and the intrusion of foreign particles.		Second digit: degree of protection against water..	
IP 0X	no protection	IP X0	no protection
IP 1X	protection against contact with the back of the hand	IP X1	protection against vertically falling water drops
IP 2X	protection against finger contact with live or moving parts in the appliance. The test finger with Ø 12 mm and 80 mm length must not come into contact with dangerous parts. A ball of 12.5 mm diameter should not be able to fully penetrate the housing	IP X2	protection against water drops so long as the device is tilted to an angle of 15°
IP 3X	test bar Ø 2.5 mm may not penetrate the housing	IP X3	protection against water spraying at any angle up to 60° to the vertical
IP 4X	a wire with Ø 1 mm may not penetrate the housing	IP X4	protection against water spraying at any angle
IP 5X	complete protection against dust cannot be guaranteed, but dust is not able to accumulate in such a way as to impair the operation of the device	IP X5	protection against jets of water directed from any angle at the appliance
IP 6X	total protection against dust (no penetration)	IP X6	protection against heavy seas. A strong jet of water may not harm the appliance
		IP X7	protection against occasional immersion
		IP X8	protection against permanent immersion
		IP X9k	protection against water during high pressure / steam cleaning

Comparison between NEMA and IEC protection ratings - classification

NEMA Protection Typo Number	**Protection**	**IEC Protection Classification Designation**
1	Falling dirt	IP 10
2	Dripping water and falling dirt	IP 11
3	Wind blown dust, rain and hail; no damage due to external ice formation	IP 54
3 R	Rain and hail; no damage due to external ice formation	IP 14
3 S	Wind blown dust, rain and hail; can be operated even with external ice formation	IP 54
4	Wind blown dust, rain, splashes and a direct jet of water; no damage due to external ice formation	IP 56
4 X	Wind blown dust, rain, splashes and a direct jet of water; no damage due to external ice formation, corrosion protection	
5	Dust, falling dirt, dripping non-corrosive liquids	IP 52
6	Direct jet of water, temporary submersion; no damage due to external ice formation	IP 67
6 P	Direct jet of water, longer periods of submersion; no damage due to external ice formation	
12 und 12 K	Circulating dust, falling dirt, dripping non-corrosive liquids	IP 52
13	Dust, splashes of water, oil, non-corrosive liquids	IP 54

Cannot be used to convert IEC Classification Designations to NEMA Type Numbers.

Note: This comparison is based on tests specified in IEC Publication 60529.

Interfaces - USB, IO-Link, AS-Interface

	USB	IO-Link	AS-Interface
Technology	Electrically powered: Point-to-point, communication: Bus	Serial point-to-point communication	Fieldbus
Device architecture	Multi-layer star topology	Point-to-point, No bus-based architecture	Bus, star, ring and tree topologies possible
Standards	-	IEC 61131-9	EN 50295, IEC 62026-2
Maximum cable length	3m resp. 5m	20m	100m
Features	Mainly for PC-based applications	Sturdy point-to-point communication without shielded cable	Data transmission and power supply on a common unshielded cable
Products	Kombi*SIGN* 72 Kombi*SIGN* 71 LED Installation Beacon (Multicolour) 816 	*eSIGN* Kombi*SIGN* 40 Kombi*SIGN* 71 Kombi*SIGN* 72 	Kombi*SIGN* 71 Kombi*SIGN* 72 LED Installation Beacon (Multicolour) 816 
Application examples	• Self-checkouts • PC-controlled testing machines • Monitoring of PC-controlled processes in production shops (e.g. printing orders)	• Communication with sensor systems (e.g. Access control, filling levels or order/project status) • Integration of a signal tower into a production environment consisting of different bus systems	• Integration into an existing AS-i environment

USB

USB (Universal Serial Bus) is a serial bus system for signal transmission between a computer and external devices. The devices in operation are recognised and displayed by the PC. The relevant device can be used immediately after installing the driver file provided by WERMA. WERMA USB products are compatible with various Windows versions, which are listed in the product manual. Depending on the product, the devices are controlled via VCP (virtual COM port), DLL (dynamic-link library) or exe. file.

IO-Link

IO-Link is the first standardised interface in control technology that transmits all sensor and actuator device signals to a higher-level controller. IO-Link is often referred to as the "USB interface for industry". This communications network is used to transfer data on switching states, configurations, processes and diagnoses. The special feature of IO-Link is that this technology is used to transmit control data to the lowest field level.

The IODD (IO Device Description) contains information about the device's identity, parameters, process and diagnostic data. The integration and operation of IO-Link devices can start immediately once the IODD has been imported into the user's engineering tool.

AS-Interface

AS-i (actuator/sensor interface) with its characteristic yellow cable is a modern automation bus system. A "master" organises the communications in the network automatically and exchanges process and diagnostic data with the higher-level control system. The "master" recognises the connected devices and monitors its network automatically. AS-Interface requires no specific software for this purpose. The characteristic transmission medium is an unshielded two-wire yellow cable that is responsible for transmitting both data and power. An IDC connector clamps to the cable to provide mechanical and electrical connections.

The generation of light - a summary of the possibilities

Light can be generated in various ways. In the field of signalling technology LEDs are used in the majority of applications.



LED

Light emitting diodes are constructed using certain semiconductors. Foreign atoms are built into the semiconductor with the purpose of optimising the conductibility. Half of the semiconductor (n-region) is doped with foreign atoms that contain one bonding electron more than the semiconductor atom. This surplus atom can move freely and increases conductibility.
The other half (p-region) is doped with foreign atoms containing one electron less than the semiconductor. When the LED is switched on, these faults ("holes") fill up with free electrons (recombination). Energy in the form of radiant photons is hereby released. The energy and therefore the colour of the light emitted is determined by the material the semiconductor is made of; e.g. GaAsP (Gallium Arsenic Phosphide) results in red light.



Electric discharge tubes

Xenon flash tubes are widely used in signalling technology. They consist of a glass tube filled with the inert gas xenon. A sufficiently high voltage leads to a discharge of energy with a spark gap and a flash of high intensity.



Bulbs / Halogen bulbs

A tungsten filament is heated up to a high temperature, so radating energy over a wide wavelength. This is perceived as light similar to sunlight. The tungsten filament evaporates with time. When the tungsten content falls below a certain level, the maximum life duration of the bulb is reached. As tungsten oxidises quickly and is destroyed when it comes into contact with air, the filament must be kept in a non-oxidising atmosphere such as vacuum. This leads us to the familiar light bulb with its sealed glass body.

These are bulbs wherein the tungsten filament is enclosed by a small amount of halogen.
The resulting chemical reaction has the effect of lengthening the life of the tungsten and stabilising the light output throughout the entire life duration of the bulb.

Light in Signalling technology

Fundamental units of light magnitude

The fields of lighting and signalling technology differentiate between fundamental units to define light itself. The most important of these are the units Lumen, Candela and Lux.

Lumen (unit lm)

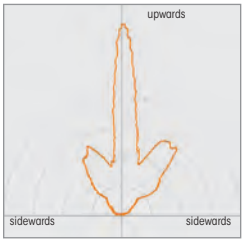
Light current is measured in Lumen; this is the unit for the entire visible light output of a light-emitting source.
The light current is defined by the following formula known as the brightness characteristic:

Light current ϕ [in *lm*] = radiation capacity x brightness characteristic V(λ)

The brightness impression upon the human eye is based on a sensitivity curve V(λ) which reproduces the sensation felt by the eye in relation to the wavelength. The maximum point on this curve is at about 555 nm; we see best at this wavelength; V(555 nm) = 1.

Candela (unit cd)

In signalling technology only the part of the light current that is emitted in a certain direction is of importance. This light intensity is measured in Candela. It is defined by the light current of a lamp and the steradian measure.



$$\text{Light intensity [in } cd\text{]} = \frac{\text{Light current } \phi}{\text{Steradian measure } \Omega}$$

A complete sphere has a dihedral angle of $\Omega = 4\,\pi$ sr. sr stands for the steradian and is the unit for the dihedral angle.



Example: a household candle emitting a light intensity of 12,566 Lumen has a light intensity in relation to the steridian measure $\frac{12{,}566\ \text{lm}}{4\,\pi\ \text{sr}} \approx 1\,\text{cd}$.

This explains the name: candela is the Latin word for candle.

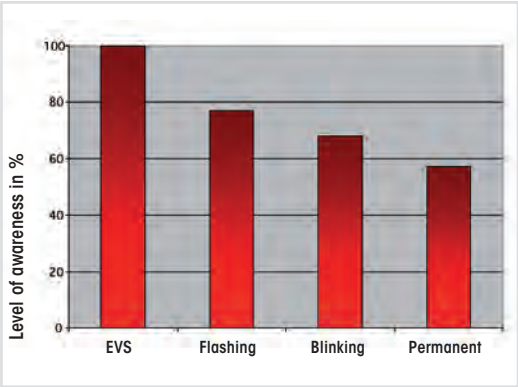
Lux (unit lx)

Illumination density is an important unit in lighting installations. It is the measure of the brightness with which an area is illuminated. Whereas light intensity (in cd) is a property of a light source, illumination density is calculated in regard to the area to be illuminated.

Where the light current emitted is constant, the following formula is applicable:

$$\text{Light density E [in lux]} = \frac{\text{Light current } \phi}{\text{Surface A}}$$

Optical Signal Devices





Permanent light and LED Permanent light

With the assistance of a permanent light or an LED permanent light the operator is made aware of a specific condition or is instructed to carry out a certain course of action.

For safety reasons signal beacons are increasingly equipped with light emitting diodes. The failure of optical signal devices is significantly reduced as a result of the longer life duration of LEDs. Furthermore, LEDs offer a range of advantages compared with conventional light bulbs for example lower current consumption, greater resistance to shock, vibration and other mechanical stress.



LED Beacons (Multicolour)

As well as offering traditional single coloured beacons, Werma has several multicolour LED products which give the user multiple colour choices in just one beacon.
The 816 LED beacon with USB connection uses RGB LED technology from which you can select up to 200,000 colour variants also in different light effects, such as permanent, blink or special flash.

The LED multicolour beacons 239, 240, 241 and 816 with M12 connectors offer up to 5 or 7 colours and enable you to signal several different status conditions with just one beacon.

Optical Signal Devices



(LED) Flashing or Blinking Light and LED EVS Signal Beacon

The deployment of a flashing or blinking signal can generate even more attention than a permanent light. Blinking and flashing beacons nowadays often employ long-life LED technology which has a significantly longer life duration of up to 50,000 hours with a considerably reduced power consumption.

The stochastic, random flickering light EVS (Enhanced Visibility System) has been developed by WERMA on a neurobiological basis. As deployed in LED Beacons, this technology succeeds in generating an optimal attention level never previously reached by existing signal devices.

WERMA employs LEDs for its EVS system. A microprocessor triggers random light signals, which make the light appear extremely "agitated", thus generating a continuously high attention level amongst those in the vicinity - even when viewed out the corner of the eye.



LED Rotating Signal Beacon and LED Rotating Mirror Beacon

Inside each rotating mirror beacon is an LED light source, and a mirror to deflect the light in one direction. This generates a rotating light beam.

In contrast to conventional Rotating Mirror Beacons, the LED version generates the rotating signal by means of a set of LEDs which are triggered in sequence.

As no mechanical components have been used at all, the beacon is completely maintenance-free.



Xenon Flashing Light

The deployment of a flashing signal can generate even more attention than a permanent light. The reason for this is to be found in the very short flash duration.

Inside each Xenon flashing beacon there is a capacitor which stores electrical energy. Within the space of a few milliseconds this energy is discharged within the flash tube, generating a very intense light impulse.

The life duration of a flash tube is heavily dependent on the respective load. The average life duration in permanent operation is 4 x 10^6 flashes.



LED Element „ultrabright“

Excellent visibility, even in direct sunlight, is a basic precondition for the reliable deployment of signal devices in outdoor areas. This is a standard feature of the signal towers and beacons from WERMA Signaltechnik. There are however applications which place even more extreme demands on the visibility of optical signalling.

Thanks to its sophisticated triggering, the innovative LED element "ultrabright" is up to 20 times brighter than conventional LED beacons - making it almost certainly the brightest permanent light that the world of signalling technology currently has to offer.

Furthermore, the intelligent electronics ensure that the LEDs operate at maximum brightness, depending on the ambient and operating temperatures. The "ultrabright" LED element is therefore always working at its optimum, and the energy-saving LED technology ensures that power consumption is kept to a minimum.



Twin*LIGHT* / Twin*FLASH*

Twin*LIGHT* and Twin*FLASH* combine two easily selectable light effects in one element

Twin*LIGHT:* Permanent and Blinking Light

Twin*FLASH:* Flash and EVS

Omni*VIEW*

Clearly visible from all positions thanks to the Omni*VIEW* lens with no blind spots

EVS - Enhanced Visibility System

enhanced visibility system

A groundbreaking innovation in LED technology opens up a completely new dimension in optical signalling. Enhanced Visibility System, or the electronic improvement of visibility, EVS for short, is the name WERMA has given to this latest development which promises to bring about a revolution in signal technology.

This technology is generally used when a particularly high level of awareness should be generated.

Irregular light impulses can circumvent the brain's filter function. Random light signals fail to generate an acclimatisation effect and the brain is unable to escape the stimulus, even when the flickering continues for an extended period.

EVS signal devices communicate highly urgent situations



As a result of the extremely powerful signal effect, the EVS light is especially suited to signalling acute or highly important conditions. The EVS element can also be deployed in hazardous situations or in areas where immediate action is required.

Integrated into Kombi*SIGN* Signal Towers, the EVS LED Element generates a highly attention-grabbing signal.

This innovative technology is also used in Evo*SIGNAL* and the 853, the optical-audible combinations 444 and 43x.



EVS - unique light effect using LED technology



The new EVS LED Element generates a high attention-grabbing signal effect.

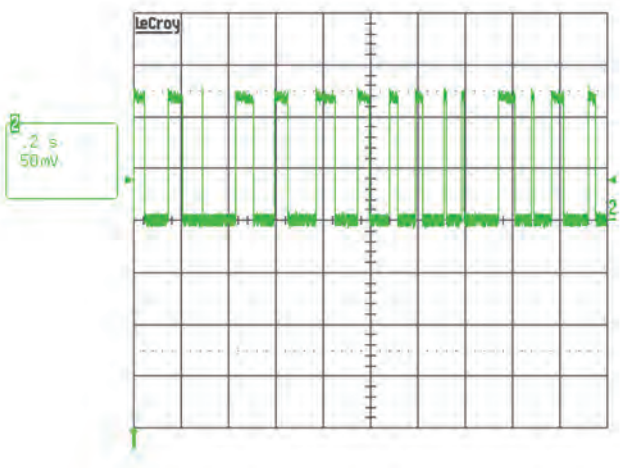
For the EVS system WERMA employs light emitting diodes. A microprocessor generates random light signals.

This gives the light a very "agitated" character which proves highly effective in drawing the attention of those in its vicinity - even when seen out of the corner of the eye.

Up to now LED signal devices have confined themselves to imitating the light effects of light bulbs or xenon flashes, EVS however utilises the strengths of light emitting diodes. LEDs are capable of generating the required high flickering frequency with ease - frequencies which xenon flashes are for example incapable of generating.

Further advantages of LEDs are the resistance to vibration, their long life duration as well as their low current consumption.

Typical 2 second section of an EVS LED element's illumination sequence

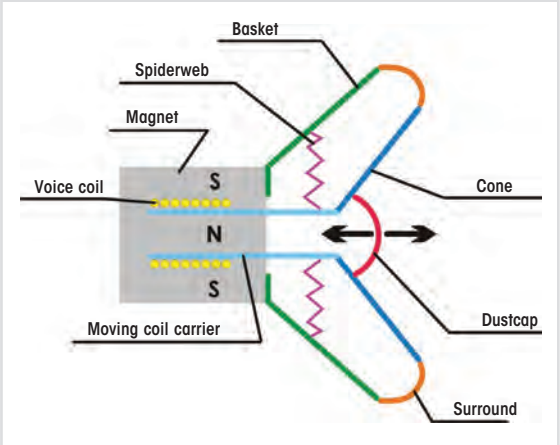


Acoustics in Signalling technology



Loudspeakers (electro-dynamic sound generation)

A loudspeaker converts an alternating electric current into sound waves. This occurs by means of the interaction between the electric current and a permanent magnet. The coil is positioned within the magnetic field of the permanent magnet. When an electric current is applied to the coil, the Lorentz force generated leads to a deflection of the coil, causing the membrane to vibrate.



As a result of the centering spider this proceeds in an up and down motion. It centres the coil and, together with the bead, ensures that it returns to the resting position.

With the use of the appropriate size of membrane and material, as well as different drives (coils and permanent magnets), loudspeakers can be optimised for a variety of different frequency ranges.



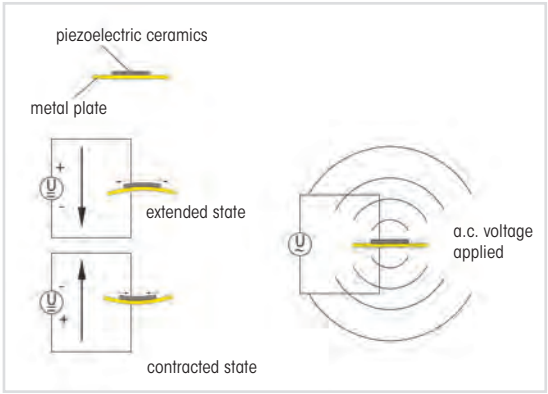
Acoustic capsule (electromagnetic sound generation)

The acoustic capsule belongs to the group of electromagnetic sound generators. This principle was previously used for telephone earpieces. Within the capsule a permanent magnet serves to pre-magnetise the armature which is connected to the membrane. This is made to oscillate and these oscillations are then converted into audible tones. The acoustic capsule is characterized by a relatively simple construction and a compact form and displays a high degree of effectivity.



Piezo disc

Piezoelectricity (also known as the piezoelectric effect, or for short: piezo effect) refers to the interaction of mechanical pressure (Greek piezein = to press) and electrical currents in solid bodies. It describes the phenomenon whereby the deformation of certain materials leads to the generation of an electric charge at the surface (direct piezoelectric effect).



In a reverse process these materials (predominately crystals) deform when a voltage is applied. The deflection is relatively small so they need to be transmitted to a membrane, from where the oscillations excite air molecules which are then perceived as sound.

Principal acoustic parameters

Sound output level

The sound output level L_p refers to the logarithmic relationship of the square of the sound output of an acoustic event to the square of the reference value $p_0 = 20\ \mu P$. The result is given in decibels (abbreviation dB).

$$L_p = 10 \log_{10}\left(\frac{p_1^2}{p_0^2}\right) dB = 20 \log_{10}\left(\frac{p_1}{p_0}\right) dB$$



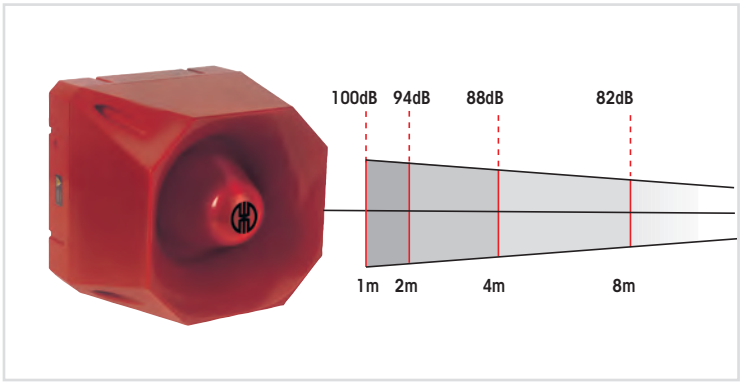


When indicating an absolute level (with reference to the standardized reference level p_0) the abbreviation "SPL" (sound pressure level) is added.

With intermediate to high levels and frequencies a sound output difference of 10 dB is heard as approximately twice as loud. Differences of 3 dB are clearly audible. The perceived sound level is not just dependent on the sound output level, but also on the spectrum of the sound signal and its temporal progression. Single tones are perceived as being considerably louder than a broadband audible signal with the same sound output level. Audible signals with sharply changing levels are also perceived as being significantly louder than uniform audible signals with the same average level.

Weighting curves (A, B and C according to DIN EN 61672-1, formerly IEC/DIN 651) are the curves from weighting filters that are applied to the sound output signal. They are designed to reproduce a similar frequency response as that of the human ear for a specific sound level. However they are only able to achieve a rough approximation, the values obtained for the weighted sound output measurements do not exactly match those of the human ear.

Weighting levels are indicated by the corresponding letter of the frequency weighting, e.g. a C weighting sound output level is given in dB (C). In the field of technical acoustics the A weighting level is predominately employed. For this reason WERMA specifies levels in dB (A).



The sound output level is always dependent on the distance from the source of the sound. WERMA specifications are always based on a measuring distance of 1 m, unless otherwise stated.

In the case of point sound sources (generally applies for all sources radiating equally in all directions), the sound output level decreases by 6 dB with each doubling of the distance from the source.

Acoustics in Signalling technology

Environmental factors

In addition to the sound output level, the tone frequency and the distance to the signal device, environmental factors are also decisive for the quality of the signal. Wind, humidity or even rain all have an effect on audibility. A very important factor is the ambient noise level.

In industrial environments in particular, the ambient noise level produced by machines is often very high. Accordingly, the signal devices must produce a sufficiently high sound output in order to be heard.

WERMA has developed loud signal horns and sirens for this purpose. With fluctuating ambient noise levels, the use of a siren with a self-adjusting sound level is recommended - a patented invention from WERMA.

Table of working range

Sound pressure level dB (A) \ Distance in m	1	2	3	5	10	20	30	50	100	200	300	500	1000
	120	114	110	106	100	94	90	86	80	74	70	66	60
	118	112	108	104	98	92	88	84	78	72	68	64	58
	116	110	106	102	96	90	86	82	76	70	66	62	56
	114	108	104	100	94	88	84	80	74	68	64	60	54
	112	106	102	98	92	86	82	78	72	66	62	58	52
	110	104	100	96	90	84	80	76	70	64	60	56	50
	108	102	98	94	88	82	78	74	68	62	58	54	48
	106	100	96	92	86	80	76	72	66	60	56	52	46
	104	98	94	90	84	78	74	70	64	58	54	50	44
	102	96	92	88	82	76	72	68	62	56	52	48	42
	100	94	90	86	80	74	70	66	60	54	50	46	40
	98	92	88	84	78	72	68	64	58	52	48	44	38
	96	90	86	82	76	70	66	62	56	50	46	42	
	94	88	84	80	74	68	64	60	54	48	44	40	
	92	86	82	78	72	66	62	58	52	46	42	38	
	90	84	80	76	70	64	60	56	50	44	40		
	85	79	75	71	65	59	55	51	45	39			
	80	74	70	66	60	54	50	46	40				
	75	69	65	61	55	49	45	41					
	70	64	60	56	50	44	40	36					
	65	59	55	51	45	39	35						

The audibility of an audible signal is dependent on a number of different factors:

- the sound output of the signal (in dB)
- the tone frequency (in Hz)
- the distance between signal device and recipient
- the noise level of the surrounding area
- other influences (for example air humidity, wind direction)

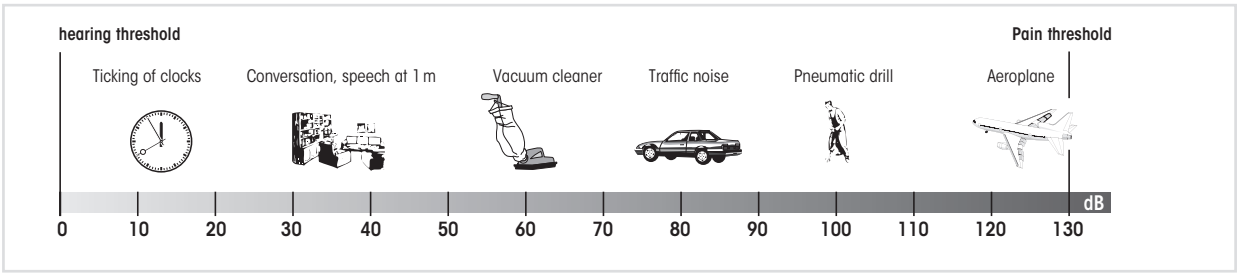
Tone frequency

Sound is a series of fluctuations in the air pressure at different amplitudes occurring at a specific rate per unit of time. This rate is termed frequency and is measured in the unit 1/s = 1Hz (Hertz). It is named after the German physicist Heinrich Rudolf Hertz. A tone is generated by an oscillation at a certain frequency. The musical tone A for example, has a frequency of 440 Hz. Noise is the term used to describe a number of overlapping tones.

The human ear is only capable of hearing tones within a certain frequency range. In the case of children this range is between 20 and 20,000 Hz. This sensitivity declines with increasing age: by the age of 50 the limit is approximately 12,000 Hz, and with advanced age this is often as low as 5,000 Hz.

The human ear hears tones of different frequencies at different relative strengths. The limit of audibility and the pain threshold are therefore dependent on the respective frequency. For this reason audible signal devices generally operate at a frequency between 500 and 3,000 Hz.

Examples of noise in everyday life





Signal Towers

Overview Signal Towers

Whether they are used on machinery and equipment, manual workstations or for access control and point-of-sale systems, WERMA signal towers reliably signal different statuses, such as faults or material replenishment requests. Professional signalling provides your application with greater safety and security and considerably reduces response times. The urgency of the signal can be easily increased using different signal effects. This enables employees to immediately react to faults and quickly resolve any problems that arise.

Monitor your processes, make them reliable and keep them running - saving time and money.
We call this intelligent signalling technology.

Overview Signal Towers						
Product type		**modular**	**modular**	**modular**	**modular**	**pre-assembled**
Technical details	**Product range**	**Kombi*SIGN* 40**	**Kombi*SIGN* 72**	**Kombi*SIGN* 71**	**CO_2 traffic light**	**KOMPAKT 37**
Diameter*		**40 mm**	**70 mm**	**70 mm**	**70 mm**	**37.5 mm**
Dimensions*						
Voltage	12 V	●	●	●		●
	24 V			●		●
	115 V			●	●	
	230 V					
Protection rating		IP 66/69k	IP 65	IP 65	IP 20	IP 65
Number of tiers possible		1-5	1-5	1-5	3	1-5
Interface		I/O-Link	ASi, USB, I/O-Link, Smart*MONITOR*, We*ASSIST*	ASi, USB, I/O-Link, Smart*MONITOR*, We*ASSIST*		
Page		Page 26	Page 32	Page 38	Page 58	Page 60

* Technical diagrams can be found on the product page

Modular Signal Towers

Optical and audible signal elements can be combined flexibly in the modular signal towers. The modular design also enables customers to add other elements separately when required. The mechanical and electrical connection of the signal tower elements takes mere seconds thanks to the bayonet fitting.

Completely pre-assembled Signal Towers

Completely pre-assembled WERMA Signal Towers can be ordered as a compact unit under a single part number, which reduces ordering and installation effort. Impressive features include their stylish design and diverse installation options, allowing them to be used in a wide range of areas.

					
pre-assembled	**pre-assembled**	**pre-assembled**	**pre-assembled**	**pre-assembled**	**pre-assembled**
e*SIGN*	**RST 56**	**de*SIGN* 42**	**Clean*SIGN***	**Flat*SIGN***	**Vario*SIGN***
72,5 mm	**57 mm**	**42 mm**	**70 mm**	-	-
			112 mm x 125 mm	**195 mm x 105 mm**	**62 mm x 90 mm**
●	●	●	●	●	●
				●	
				●	
IP 66/69k	IP 66/69k	IP 65	IP 67/IP 69k	IP 65	IP 65
6, 9, 15	2-5	2-3	3	3	3
I/O-Link					
Page 64	Page 68	Page 72	Page 74	Page 76	Page 78

Kombi*SIGN* 40 - Modular Signal Tower



Your benefits

There is no need to compromise with the Kombi*SIGN* 40, because WERMA has combined quick installation, excellent visibility and the highest level of flexibility in this product. This saves time and money with regard to installation and order logistics.

- Save up to 50% on installation time thanks to self-explanatory connections and intuitive mechanics
- Maximum flexibility despite a small number of variants
- Twin*LIGHT* and Twin*FLASH* combine two easily selectable light effects in one element
- In Classic*LOOK* or Design*LOOK* to suit all machine surfaces
- Clearly visible from all positions thanks to the Omni*VIEW* lens with no blind spots
- Pre-configured standard versions are available (common configurations as a complete tower with a single part number)

Typical applications

Fault signalling

- on machinery and equipment
- on automated systems
- in assembly plants, for example, in the automotive industry

Installation options

- Base mounting
- Tube mounting
- Single-hole mounting
- Additional Installation options using accessories

Features

- Multicolour element offers up to seven colours in a single element
- High IP66/69k protection rating prevents ingress of dust and water
- Compact and high-output 95 dB siren
- Optionally available with IO-Link technology
- IP69k allows high pressure washing

TwinLIGHT

TwinFLASH

IO-Link

Size comparison Kombi*SIGN* 40/72



How to assemble your Kombi*SIGN* 40 signal tower

▸ STEP 1
Select the required optical or audible elements.
Order numbers can be found on page 29.

▸ STEP 2
Select the terminal element and appropriate mounting solution for your application.

▸ STEP 3
Optional:
Where appropriate, select the Extension tube. Can be installed between the terminal element and the mounting adapter.

▸ STEP 4
Select mounting adapter as required.

▸ STEP 5
Where appropriate, select the bracket.

Classic*LOOK*



Audible Signal Element
- 8 tone siren
- 2 tone siren
- 4 tone siren

Optical Signal Elements
- Twin*LIGHT*
- Twin*FLASH*
- LED Permanent light element multicolour



Terminal element
Order no. **630 800 75**

IO Link terminal element
Order no. **631 800 55**





Extension tube (optional)
Order no.
960 630 03

Tube Mounting



Adapter for tube mounting
Order no.
630 830 00

Single Hole Mounting



Adapter for single hole mounting + cable gland M16 x 1,5
Order no.
630 820 00 + 960 630 04



Bracket for assembly on aluminium profiles with cable gland
Order no.
960 630 02

Base Mounting



Adapter for base mounting
Order no.
630 810 00



Bracket for concealed cable entry
Order no.
960 630 01

Design*LOOK*





Terminal element
Order no. **630 700 75**

IO Link terminal element
Order no. **631 400 55**





Extension tube (optional)
Order no.
960 630 07

Tube Mounting



Adapter for tube mounting
Order no.
630 730 00

Single Hole Mounting



Adapter for single hole mounting + cable gland M16 x 1,5
Order no.
630 720 00 + 960 630 04



Bracket for assembly on aluminium profiles with cable gland
Order no.
960 630 06

Base Mounting



Adapter for base mounting
Order no.
630 710 00



Bracket for concealed cable entry
Order no.
960 630 05

Further accessories can be found in our main catalogue page 74 or at **www.werma.com**.

Kombi*SIGN* 40 - Modular Signal Tower

Or use one of our pre-configured signal towers. With just one part number you can obtain the most popular configurations.



Kombi*SIGN* 40 Signal Tower
in Classic*LOOK* und Design*LOOK*

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Pre-configured signal tower	Classic*LOOK*	Design*LOOK*
Dimensions (Ø x Height):	40 mm x 214 mm	
Voltage:	24 V AC/DC	
Twin*LIGHT* green/yellow/red	**639 300 01**	**639 301 01**
Consisting of:		



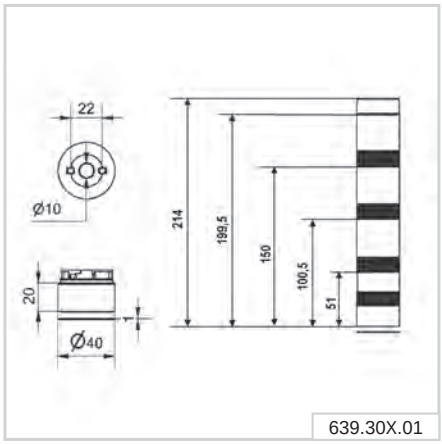


Technical details are given on the relevant product page.

🛠 ACCESSORIES

	Classic*LOOK*	Design*LOOK*
Bracket for concealed cable entry	**960 630 01**	**960 630 05**

↔ TECHNICAL DIAGRAMS:





Kombi*SIGN* 40 - Optical Signal Elements

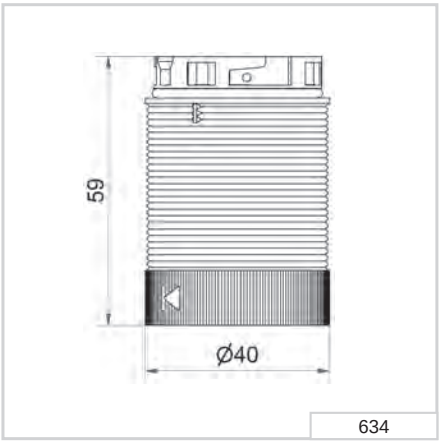


Kombi*SIGN* 40 Signal Tower
in Classic*LOOK* and Design*LOOK*

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Classic*LOOK*	Design*LOOK*
Dimensions (Ø x Height):	40 mm x 59 mm	
Lens:	PC, transparent	
Life duration:	50,000 hrs	
Twin*LIGHT*		
Light effects:	LED Permanent or Blinking light, adjustable via slide switch	
Voltage:	24 V AC/DC	
Current consumption:	< 30 mA	
red	**634 110 75**	**634 130 75**
green	**634 210 75**	**634 230 75**
yellow	**634 310 75**	**634 330 75**
white	**634 430 75**	**634 430 75**
blue	**634 510 75**	**634 530 75**
Twin*FLASH*		
Light effect:	LED Flash light or EVS, adjustable via DIP-Switch	
Voltage:	24 V DC	
Current consumption:	< 65 mA	
red	**634 120 55**	**634 140 55**
green	**634 220 55**	**634 240 55**
yellow	**634 320 55**	**634 340 55**
white	**634 440 55**	**634 440 55**
blue	**634 520 55**	**634 540 55**
Multicolour		
Light effect:	LED Permanent light	
Colours:	Red, yellow, green, blue, white, violet, turquoise controlled by binary inputs	
Voltage:	24 V DC	
Current consumption:	< 60 mA	
Order No.:	**634 450 55**	**634 450 55**

↔ TECHNICAL DIAGRAMS:



Class 2



Kombi*SIGN* 40 - Audible Signal Elements



4 or 8 tone
Kombi*SIGN* 40 siren
in Design*LOOK*



2 tone Kombi*SIGN* 40 siren
in Classic*LOOK*

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Classic*LOOK*	Design*LOOK*
Housing:	PC	
Life duration:	5,000 hrs	
2 Tone Siren		
Dimensions (Ø x Height):	40 mm x 45 mm	
Sound output:	85 dB (A)	
Tone type:	Continuous or pulse tone, can be set via slide switch	
Voltage:	24 V AC/DC	
Current consumption:	< 80 mA	
Order No.	**635 800 75**	**635 700 75**
4 Tone Siren		
Dimensions (Ø x Height):	40 mm x 68 mm	
Sound output:	67-95 dB (A)	
Tone type:	4 tones, can be set via DIP switch	
Voltage:	24 V AC/DC	
Current consumption:	< 200 mA	
Order No.	**635 820 75**	**635 720 75**
8 Tone Siren		
Dimensions (Ø x Height):	40 mm x 68 mm	
Sound output:	89-95 dB (A), can be set via DIP switch	
Tone type:	8 tones, can be set via slide switch	
Voltage:	24 V AC/DC	
Current consumption:	< 200 mA	
Order No.	**635 810 75**	**635 710 75**

↔ TECHNICAL DIAGRAMS:

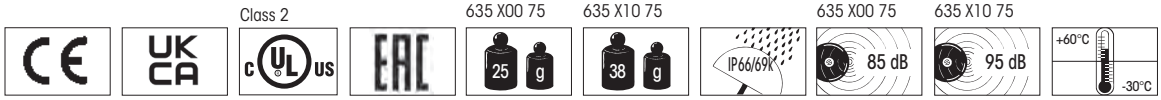


635.X00.75



635.X10.75

Class 2 | 635 X00 75 | 635 X10 75 | 635 X00 75 | 635 X10 75



Kombi*SIGN* 40 - Terminal Elements



Kombi*SIGN* 40 Design*LOOK* assembly adapter for single hole mounting



Kombi*SIGN* 40 Classic*LOOK* assembly adapter for base mounting



IO-Link terminal element Kombi*SIGN* 40 Classic*LOOK*



Kombi*SIGN* 40 Design*LOOK* assembly adapter for tube mounting

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

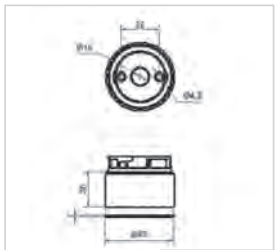
	Classic*LOOK*	Design*LOOK*
Housing:	PC	
Number of tiers possible:	Max. 5	
Terminal element		
Dimensions (Ø x Height):	40 mm x 40 mm	
Cable entry:	Cable diameter max. 9 mm	
Connection:	Push-in terminal max. 1.5 mm^2	
Voltage:	24 V AC/DC	
Order No.	**630 800 75**	**630 700 75**
IO Link Terminal element		
Dimensions (Ø x Height):	40 mm x 59 mm	
Cable entry:	Cable diameter max. 9 mm	
Connection:	Push-in terminal max. 0.75 mm^2	
Voltage:	24 V via IO-Link	
Current consumption:	10 mA	
Order No.	**631 800 55**	**631 400 55**
Adapter for base mounting		
Dimensions (Ø x Height):	40 mm x 30 mm	
Order No.	**630 810 00**	**630 710 00**
Adapter single hole mounting		
Dimensions (Ø x Height):	40 mm x 54 mm	
Order No.	**630 820 00**	**630 720 00**
Adapter tube mounting		
Dimensions (Ø x Height):	40 mm x 75 mm	
Order No.	**630 830 00**	**630 730 00**

🛠 ACCESSORIES: SEE PAGE 27

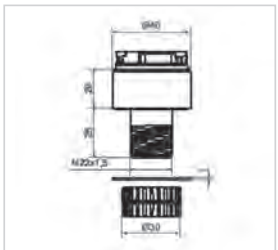
↔ TECHNICAL DIAGRAMS:



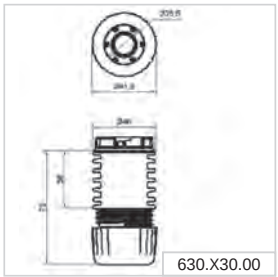
630.X00.75



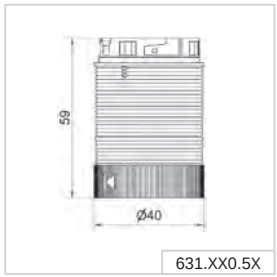
630.X10.00



630.X20.00



630.X30.00



631.XX0.5X

Class 2 | 630 X00 75 | 630 X10 00 | 630 X20 00 | 630 X30 00

26 g | 21 g | 30 g | 45 g | IP66/69K | +60°C | -30°C

Kombi*SIGN* 72 - Signal Tower

Your benefits

There is no need to compromise with the Kombi*SIGN* 72, because this product combines quick installation, excellent visibility and the highest level of flexibility. This saves time and money with regard to installation and order logistics.

- Smooth surfaces prevent dirt gathering and make cleaning easy
- Easy, intuitive installation - incorrect assembly is practically impossible (Poka Yoke)
- High-tech: the Signal Towers can easily be retrofitted with Smart*MONITOR* (smart MDC alternative), We*ASSIST*, Andon*SPEED* (call-for-action system) or Andon*WIRELESS*
- Twin*LIGHT* and Twin*FLASH* combine two easily selectable light effects in one element
- In Classic*LOOK* or Design*LOOK* to suit all machine surfaces
- Clearly visible from all positions thanks to the Omni*VIEW* lens with no blind spots
- Pre-configured standard versions are available (common configurations as a complete tower with a single part number)

Typical applications

The new definition of the industry standard to signal faults

- on machinery and equipment
- on automated systems
- in assembly plants, for example, in the automotive industry
- on conveyor belts in production and logistics
- at manual workstations as a call-for-action system
- upgradeable to Smart*MONITOR*, We*ASSIST*, Andon*SPEED* or Andon*WIRELESS*

Installation options

- Base mounting
- Tube mounting
- Additional installation options using accessories

Features

- Combine the Kombi*SIGN* 72 light elements with special controller solutions such as I/O-Link, USB or ASi, or integrate one of the versatile audible elements
- Can be combined and retrofitted with all the Kombi*SIGN* 71 elements and accessories, as well as the Smart*MONITOR*, We*ASSIST*, Andon*WIRELESS* and Andon*SPEED* wireless-based systems
- High-output 105 dB siren

Size comparison Kombi*SIGN* 72 / 40



Twin*LIGHT*

Twin*FLASH*



IO-Link

How to assemble your Kombi*SIGN* 72 signal tower

Classic*LOOK*

▸ STEP 1
Select the required optical or audible elements in the correct voltage (for details see page 35).



Audible Signal Element
- 2 tone siren
- 8 tone siren

Optical Signal Elements
- Twin*LIGHT*
- Twin*FLASH*

IO Link terminal element

▸ STEP 2
Select the appropriate mounting option for your application.

Base Mounting

▸ STEP 3
Select the correct terminal element for your mounting option (for details see page 37).



Terminal element with CAGE CLAMP® technology
Order no. **640 800 00**

▸ STEP 4
Where appropriate, select a base and the desired tube length (only for tube mounting) (For details see page 80).



Base with integrated tube
Order no. **975 840 10**

Tube Mounting



Terminal element with CAGE CLAMP® technology
Order no. **640 810 00**

Tube Ø 25 mm, all anodised
Order no.
100 mm long **975 845 10**
250 mm long **975 840 25**
400 mm long **975 840 40**
600 mm long **975 840 60**
800 mm long **975 840 80**
1000 mm long **975 840 03**





Base for Tube, plastic
Order no. **975 840 90**



Base for Tube, metal
Order no. **975 840 91**

▸ STEP 5
Where appropriate, select the bracket and the contact box (for details see page 80).



Bracket for base mounting
Order no. **960 000 02**



Bracket for 1-sided mounting
Order no. **975 840 85**



Bracket for 2-sided mounting
Order no. **975 840 86**



Bracket for base mounting with concealed cable entry
Order no. **960 000 14**



Bracket for tube mounting
Order no. **960 000 01**

Design*LOOK*



Base Mounting



Terminal element with CAGE CLAMP® technology
Order no. **640 900 00**



Base with integrated tube
Order no. **960 000 51**

Tube Mounting



Terminal element with CAGE CLAMP® technology
Order no. **640 910 00**

Tube Ø 25 mm, all anodised
Order no.
100 mm long **975 845 10**
250 mm long **975 840 25**
400 mm long **975 840 40**
600 mm long **975 840 60**
800 mm long **975 840 80**
1000 mm long **975 840 03**





Base for Tube, plastic
Order no. **960 000 50**



Bracket for base mounting
Order no. **960 000 53**



Bracket for 1-sided mounting
Order no. **960 000 52**



Bracket for base mounting with concealed cable entry
Order no. **960 000 55**



Bracket for tube mounting
Order no. **960 000 54**

Look at the signal device section on: www.werma.com

With the new signal tower configurator you can put together your own individual signal tower.

Further accessories can be found in our main catalogue page 74 or at www.werma.com.

Kombi*SIGN* 72 - Modular Signal Tower



Or use one of our pre-configured signal towers. With just one part number you can obtain the most popular configurations.

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

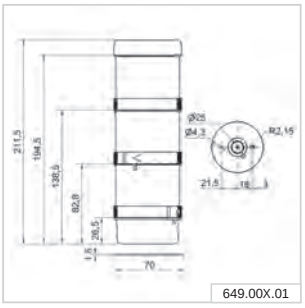
Pre-configured signal tower	Classic*LOOK*	Design*LOOK*
Dimensions (Ø x Height):	70 mm x 211.5 mm	
Voltage:	24 V AC/DC	
Base/Bracket mounting		
Consisting of:	 647 110 75 + 647 310 75 + 647 210 75 + 640 800 00	 647 130 75 + 647 330 75 + 647 230 75 + 640 900 00
Twin*LIGHT* green/yellow/red	**649 000 01**	**649 001 01**
Tube mounting		
Dimensions (Ø x Height):	70 mm x 299 mm	
Consisting of:	 647 110 75 + 647 310 75 + 647 210 75 + 640 810 00 + 975 840 10	 647 130 75 + 647 330 75 + 647 230 75 + 640 910 00 + 960 000 51
Twin*LIGHT* green/yellow/red	**649 000 02**	**649 001 02**

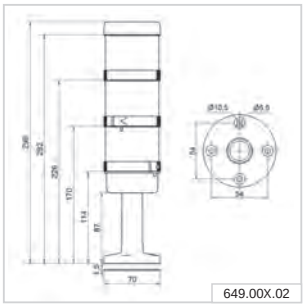
Technical details are given on the relevant product page.

🛠 ACCESSORIES:

	Classic*LOOK*	Design*LOOK*
Bracket for 1-sided mounting	**975 840 85**	**960 000 52**
Bracket for base mounting	**960 000 02**	**960 000 53**
Bracket for tube mounting	**960 000 01**	**960 000 54**

↔ TECHNICAL DIAGRAMS:


649.00X.01


649.00X.02

649 00X 01 649 00X 02



Kombi*SIGN* 72 - Optical Signal Elements



ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Classic*LOOK*	**Design*LOOK***
Dimensions (Ø x Height):	70 mm x 65.5 mm	
Lens:	PC, transparent	
Twin*LIGHT*		
Light effects:	LED Permanent light, LED Blinking light, adjustable via slide switch	
Voltage:	24 V AC/DC	
Current consumption:	< 80 mA	
red	**647 110 75**	**647 130 75**
green	**647 210 75**	**647 230 75**
yellow	**647 310 75**	**647 330 75**
white	**647 430 75**	**647 430 75**
blue	**647 510 75**	**647 530 75**
Twin*FLASH*		
Light effect:	LED Flashing light, LED EVS light, adjustable via slide switch	
Voltage:	24 V DC	
Current consumption:	< 80 mA	
red	**647 120 55**	**647 140 55**
green	**647 220 55**	**647 240 55**
yellow	**647 320 55**	**647 340 55**
white	**647 440 55**	**647 440 55**
blue	**647 520 55**	**647 540 55**

↔ TECHNICAL DIAGRAMS:



Kombi*SIGN* 72 - Audible Signal Elements

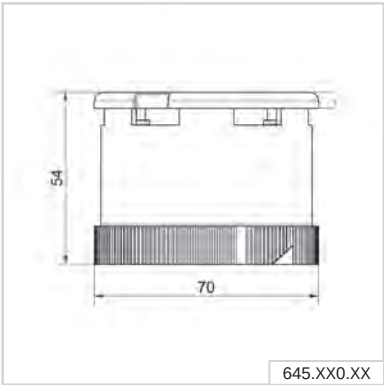


2 and 8 tone siren
Kombi*SIGN* 72
Design*LOOK*

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Classic*LOOK*	Design*LOOK*
Housing:	PC	
Life duration:	5,000 hrs	
2 Tone Siren		
Dimensions (Ø x Height):	70 mm x 54 mm	
Sound output:	95-105 dB (A), adjustable by slide switch	
Tone type:	Permanent tone or alternating tone, selectable by slide switch	
Voltage:	24 V AC/DC	24 V AC/DC
Current consumption:	< 40 mA	< 40 mA
Order no.	**645 870 75**	**645 770 75**
8 Tone Siren		
Dimensions (Ø x Height):	70 mm x 54 mm	
Sound output::	95-105 dB (A), adjustable by slide switch	
Tone type:	8 tones, can be set via slide switch	
Voltage:	24 V AC/DC	24 V AC/DC
Current consumption:	< 30 mA	< 30 mA
Order no.	**645 890 75**	**645 790 75**
Voltage:	115-230 V AC	115-230 V AC
Current consumption:	< 45 mA	< 45 mA
Order no.	**645 890 60**	**645 790 60**

↔ TECHNICAL DIAGRAMS:





Kombi*SIGN* 72 - Terminal Elements



Terminal element
Kombi*SIGN* 72
Design*LOOK*



Terminal element
Kombi*SIGN* 72
Classic*LOOK*



IO Link element
Kombi*SIGN* 72
Classic*LOOK*



IO Link element
Kombi*SIGN* 72
Design*LOOK*

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

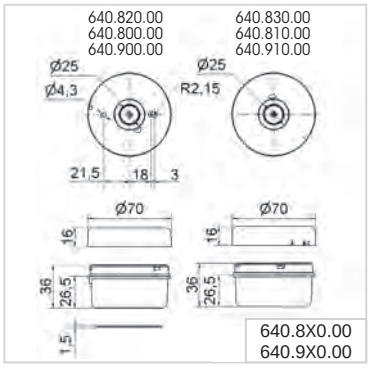
	Classic*LOOK*	Design*LOOK*
Dimensions (Ø x Height):	70 mm x 36 mm	
Housing:	Terminal element: PA-GF Cap: PC	
Fixing:	Base mounting, Tube mounting for tube Ø 25 mm (accessory), Bracket mounting (accessory)	
Cable entry:	Cable diameter max. 11 mm	
Connection:	CAGE CLAMP® technology max. 1.5 mm²	
Protection rating:	IP 65	
Number of tiers possible:	Max. 5	
Voltage:	12-230 V AC/DC	
Base mounting	**640 800 00**	**640 900 00**
Tube mounting	**640 810 00**	**640 910 00**
Terminal element M12		
Dimensions (Ø x Height):	70 mm x 59 mm	
Voltage:	12-24 V DC	
Current carrying capacity:	≤ 2 A	
8 pole (up to 5 tiers):	**640 880 00**	**640 980 00**
5 pole (up to 4 tiers):	**640 870 00**	**640 970 00**
IO Link element		
Dimensions (Ø x Height):	70 mm x 65.5 mm	
Numbers of tiers possible:	Max. 5	
Voltage:	24 V via IO-Link	
Current consumption:	6 mA	
Order no.	**646 840 55**	**646 440 55**

🛠 ACCESSORIES:

	Classic*LOOK*	Design*LOOK*
Base with integrated tube	**975 840 10**	**960 000 51**
Bracket for 1-sided mounting	**975 840 85**	**960 000 52**
Bracket for base mounting	**960 000 02**	**960 000 53**
Bracket for tube mounting	**960 000 01**	**960 000 54**
Bracket for base mounting with concealed cable entry	**960 000 14**	**960 000 55**
Base for tube Ø 25 mm, plastic	**975 840 90**	**960 000 50**

Additional accessories can be found on page 74.

↔ TECHNICAL DIAGRAMS:





646.440.55
Class 2

Max.

646.440.55
646.840.55



Kombi*SIGN* 71 - Signal Tower



Your benefits

The Kombi*SIGN* 71 has successfully established itself as the standard in industrial applications over recent years. The patented bayonet mechanism enables elements to be installed or removed in a matter of seconds.

- A wide range of accessories ensures maximum flexibility
- High-tech: The Signal Towers can easily be retrofitted with Smart*MONITOR* (intelligent MDC alternative), We*ASSIST* or Andon*SPEED* (call-for-action system)
- Completely pre-configured standard versions are available (common configurations as a complete tower with a single part number)

Typical applications

Signalling fault messages

- on machinery and equipment
- on automated systems
- in assembly plants, for example, in the automotive industry
- in the building services industry

Installation options

- Base mounting
- Tube mounting
- Additional installation options using accessories

Features

- Different light effects are possible for individual signalling
- The Multicolour element offers up to seven colours in a single element
- The self-adjusting siren element automatically adapts to the ambient noise level
- Vocal element for your own mp3 or wav files
- Combine the Kombi*SIGN* 71 light elements with special controller solutions such as USB, I/O-Link or ASi, or integrate one of the versatile audible elements

Size comparison Kombi*SIGN* 71/40



How to assemble your Kombi*SIGN* 71 signal tower

▸ STEP 1
Select the required optical or audible elements in the correct voltage (for details see page 41).



Audible Signal Elements
- Buzzer element
- Siren element
- Vocal element

Optical Signal Elements
- (LED) Permanent light
- LED Permanent light ultrabright
- LED Flashing light
- LED EVS element
- LED Blinking light
- LED Rotating light
- LED Permanent light element multicolour

▸ STEP 2
Select the appropriate mounting option for your application.

▸ STEP 3
Select the correct terminal element for your mounting option (for details see page 45).

Base Mounting



Terminal element with CAGE CLAMP® technology
Order no. **640 800 00**



Screw terminal
Order no. **640 820 00**



Terminal element M12
8 pole **640 880 00**
5 pole **640 870 00**

Tube Mounting



Terminal element with CAGE CLAMP® technology
Order no. **640 810 00**



Screw terminal
Order no. **640 830 00**



Terminal element M12
8 pole **640 880 00**
5 pole **640 870 00**

▸ STEP 4
Where appropriate, select a base and the desired tube length (only for tube mounting) (For details see page 80).



Tube with clamp
Order no.
960 000 18



Adaptor for single hole mounting
Order no.
960 000 25



Base with integrated tube
Order no.
975 840 10

Tube Ø 25 mm, all anodised
100 mm long Order no. **975 845 10**
250 mm long Order no. **975 840 25**
400 mm long Order no. **975 840 40**
600 mm long Order no. **975 840 60**
800 mm long Order no. **975 840 80**
1000 mm long Order no. **975 840 03**



Base for Tube, plastic
Order no. **975 840 90**

Base for Tube, metal
Order no. **975 840 91**



Foldaway Base
Order no. **960 000 30**

Foldaway Base
Order no. **960 009 12**

Tube Ø 25 mm, plastic, only for Foldaway Base, 45 mm long
Order no. **960 000 31**

▸ STEP 5
Where appropriate, select the bracket and the contact box (for details see page 80).



Contact box for cable exit at side
Order no. **975 840 01**



Bracket for base mounting
Order no. **960 000 02**



Bracket for 1-sided mounting
Order no. **975 840 85**



Bracket for 2-sided mounting
Order no. **975 840 86**



Corner fixing bracket
Order no. **960 000 41**



Contact box for cable exit at side
Order no. **975 840 01**



Contact box with magnetic base and cable exit at side
Order no. **975 840 04**



Bracket for base mounting with concealed cable entry
Order no. **960 000 14**



Bracket for tube mounting
Order no. **960 000 01**



Corner fixing bracket
Order no. **960 000 41**

Look at the signal device section on:
www.werma.com

With the signal tower configurator you can put together your own individual signal tower.

Kombi*SIGN* 71 - Signal Tower



Or use one of our pre-configured signal towers. With just one part number you can obtain the most popular configurations.

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

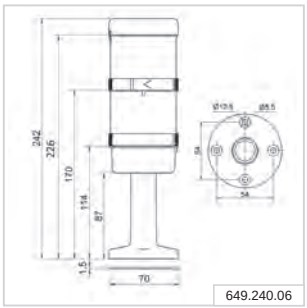
Pre-configured signal tower	**2 tier**	**3 tier**
Voltage:	24 V AC/DC	24 V AC/DC
Base/Bracket mounting		
Consisting of:	 644 100 75 + 644 200 75 + 640 800 00	 644 100 75 + 644 300 75 + 644 200 75 + 640 800 00
Dimensions (Ø x Height):	70 mm x 155 mm	70 mm x 211.5 mm
LED Permanent Light green/yellow/red	-	**649 240 02**
LED Permanent Light green/red	**649 240 04**	-
Tube mounting		
Consisting of:	 644 100 75 + 644 200 75 + 640 810 00 + 975 840 10	 644 100 75 + 644 300 75 + 644 200 75 + 640 810 00 + 975 840 10
Dimensions (Ø x Height):	70 mm x 242 mm	70 mm x 299 mm
LED Permanent Light green/yellow/red	-	**649 240 05**
LED Permanent Light green/red	**649 240 06**	-

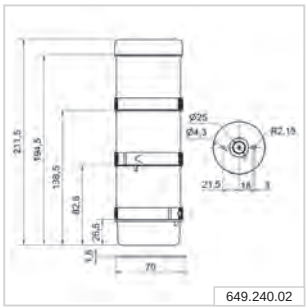
Technical details are given on the relevant product page.

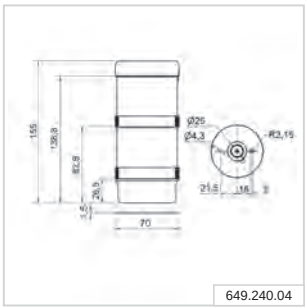
🛠 ACCESSORIES:

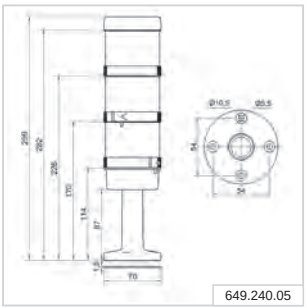
Bracket for 1-sided mounting	**975 840 85**
Bracket for surface mounting	**960 000 02**
Bracket for base mounting	**960 000 01**

↔ TECHNICAL DIAGRAMS:









649 240 04 649 240 06 649 240 02 649 240 05



Kombi*SIGN* 71 - Optical Signal Elements



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:				
Dimensions (Ø x Height):	70 mm x 65.5 mm			
Lens:	PC, transparent			
Socket:	Bayonet, BA15d, for bulbs max. 5 W			
Protection rating:	IP 65			
Life duration:	50,000 hrs (LED)			
Permanent light element	12-240 V AC/DC			
red	**641 100 00**			
green	**641 200 00**			
yellow	**641 300 00**			
clear	**641 400 00**			
blue	**641 500 00**			
Life duration:	Dependent upon the bulbs used			
Bulb not included in assembly.				
LED Permanent light element	24 V AC/DC	115 V AC	230 V AC	
Current consumption:	< 35 mA	< 25 mA	< 35 mA	
red	**644 100 75**	**644 100 67**	**644 100 68**	
green	**644 200 75**	**644 200 67**	**644 200 68**	
yellow	**644 300 75**	**644 300 67**	**644 300 68**	
clear	**644 400 75**	**644 400 67**	**644 400 68**	
blue	**644 500 75**	**644 500 67**	**644 500 68**	
LED Permanent light element ultrabright	24 V DC			
Current consumption:	< 195 mA			
red	**644 180 55**			
green	**644 280 55**			
yellow	**644 380 55**			
clear	**644 480 55**			
blue	**644 580 55**			
Flashing light element (Xenon)	24 V DC (ASI)	24 V DC	115 V AC	230 V AC
Current consumption:	< 80 mA	< 125 mA	< 22 mA	< 15 mA
red	**643 110 55**	**643 100 55**	**643 100 67**	**643 100 68**
green	**643 210 55**	**643 200 55**	**643 200 67**	**643 200 68**
yellow	**643 310 55**	**643 300 55**	**643 300 67**	**643 300 68**
clear	**643 410 55**	**643 400 55**	**643 400 67**	**643 400 68**
blue	**643 510 55**	**643 500 55**	**643 500 67**	**643 500 68**
Life duration:	4 x 10^6 flashes			
Flash frequency:	c. 1 Hz			
LED Flashing light element	24 V DC			
Current consumption:	< 35 mA			
red	**644 120 55**			
green	**644 220 55**			
yellow	**644 320 55**			
clear	**644 420 55**			
blue	**644 520 55**			
Flash frequency:	c. 1 Hz (Double Flash)			

643 X10 55
Class 2

Max.

24 V

Kombi*SIGN* 71 - Optical Signal Elements









ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

LED EVS element	24 V AC/DC		
Current consumption:	350 mA		
red	**644 140 55**		
green	**644 240 55**		
yellow	**644 340 55**		
clear	**644 440 55**		
blue	**644 540 55**		
LED Blinking light element	24 V AC/DC	115 V AC	230 V AC
Current consumption:	< 25 mA	< 25 mA	< 35 mA
red	**644 110 75**	**644 110 67**	**644 110 68**
green	**644 210 75**	**644 210 67**	**644 210 68**
yellow	**644 310 75**	**644 310 67**	**644 310 68**
clear	**644 410 75**	**644 410 67**	**644 410 68**
blue	**644 510 75**	**644 510 67**	**644 510 68**
Blink frequency:	c. 1 Hz		
LED Rotating light element	24 V AC/DC		
Current consumption:	< 40 mA		
red	**644 130 75**		
green	**644 230 75**		
yellow	**644 330 75**		
clear	**644 430 75**		
blue	**644 530 75**		
Rotation frequency:	c. 120 r.p.m.		
LED Permanent light element multicolour	24 V DC		
Current consumption:	< 120 mA		
Multicolour	**644 450 55**		
Possible colours:	Red, yellow, green, white, blue, violet, turquoise controlled by binary inputs		
Number of modules possible:	Max. 3 (including multicolour element)		

Further voltages on request.

↔ TECHNICAL DIAGRAMS:



641/ 643 / 644

643 X10 55
Class 2

Max.

24 V

Kombi*SIGN* 71 - Audible Elements



Buzzer element



Siren element Classic*LOOK*

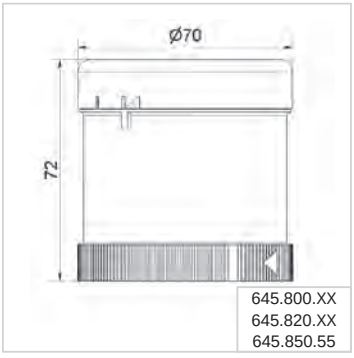


Siren element Design*LOOK*

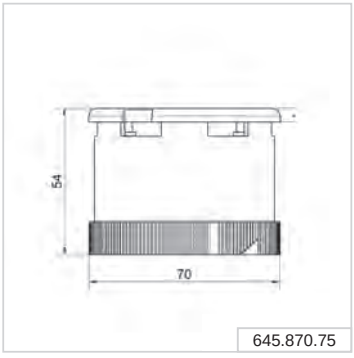
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	See below		
Lens:	PC		
Protection rating:	IP 65		
Life duration:	5,000 hrs		
Buzzer element			
Dimensions (Ø x Height):	70 mm x 72 mm		
Sound output:	85 dB (A)		
Number/Tone type:	Continuous or pulse tone		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	< 35 mA	< 25 mA	< 25 mA
Order no.:	**645 800 75**	**645 800 77**	**645 800 68**
Siren element			
Dimensions (Ø x Height):	70 mm x 54 mm		
Sound output:	95-105 dB (A), adjustable by slide switch		
Number/Tone type:	Continuous tone, alternating tone, selectable by slide switch		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	< 40 mA	< 60 mA	< 60 mA
Order no.:	**645 870 75**	**645 870 67**	**645 870 68**
Siren element 8 tones			
Dimensions (Ø x Height):	70 mm x 72 mm		
Sound output:	92-102 dB (A), adjustable sound output		
Number/Tone type:	8 tones		
Classic*LOOK*			
Voltage:	24 V AC/DC	115-230 V AC	
Current consumption:	< 30 mA	< 45 mA	
Order no.:	**645 890 75**	**645 890 60**	
Design*LOOK*			
Voltage:	24 V AC/DC	115-230 V AC	
Current consumption:	< 30 mA	< 45 mA	
Order no.:	**645 790 75**	**645 790 60**	
Multi-functional Siren, with external control			
Dimensions (Ø x Height):	70 mm x 72 mm		
Sound output:	100 dB (A), adjustable sound output		
Number/Tone type:	Number of tones dependent on the number of optical elements		
Tone triggering:	7 diff. tones can be triggered externally		
Voltage:	24 V DC		
Current consumption:	< 80 mA		
Order no.:	**645 850 55**		

↔ TECHNICAL DIAGRAMS:



645.800.XX
645.820.XX
645.850.55



645.870.75

645.870.75
645.770.75
645.890.xx
645.790.xx

645.850.55

24 V

Kombi*SIGN* 71 - Audible Elements



High output vocal element
with up to 102 dB

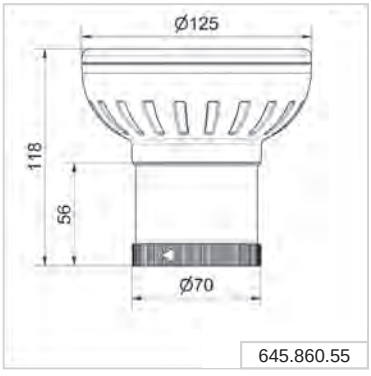
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	See below	
Lens:	PC	
Protection rating:	IP 65	
Life duration:	5,000 hrs	
Siren element with self-adjusting sound output		
Dimensions (Ø x Height):	70 mm x 111 mm	
Voltage:	24 V DC	
Current consumption:	< 150 mA	
Order no.:	**645 810 55**	
Tone type:	Pulse tone	
Tone frequency:	2.5 kHz	
Sound output:	80 dB (A) - max. 100 dB (A)	
Vocal element	**88 dB (A)**	**102 dB (A)**
Dimensions (Ø x Height):	70 mm x 111 mm	125 mm x 118 mm
Voltage:	24 V DC	24 V DC
Current consumption:	< 400 mA	< 400 mA
Order no.:	**645 840 55**	**645 860 55**
Number of tiers:	Max. 4 additional signal elements possible	
Sound output:	Adjustable, up to 88 dB (A)	Adjustable, up to 102 dB
File Transfer:	Via USB connection and provided software	
Possible data format:	Mp3 and wav files	
Number of sequences:	15 files can be remotely triggered depending on the number of signal elements used or one sequence with max. 50 files.	
Suitable for:	Windows®, System requirements – see Handbook	
Assembly:	Vocal element, USB connection cable and software	
Further Information:	With UL approval	No UL approval

↔ TECHNICAL DIAGRAMS:



645.810.55
645.840.55



645.860.55

645.810.55
645.840.55



Kombi*SIGN* 71 - Terminal Elements



Screw terminal with cap





Terminal element with practical M12 connection socket in base

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Tube mounting	Base mounting
Dimensions (Ø x Height):	See below	
Housing:	Terminal element: PA fibreglass Cap: PC	
Fixing:	Base mounting Tube mounting, for tube Ø 25 mm Bracket mounting (accessory)	
Cable entry:	Cable diameter max. 11 mm	
Protection rating:	IP 65	
Number of modules possible:	Max. 5	
Screw terminal	**Tube mounting**	**Base mounting**
Dimensions (Ø x Height):	70 mm x 42.5 mm	
Connection:	Screw terminal max. 1.5 mm²	
Voltage:	12-240 V AC/DC	
Order no.:	**640 830 00**	**640 820 00**
	Incl. cap	Incl. cap and seal
CAGE CLAMP® technology	**Tube mounting**	**Base mounting**
Dimensions (Ø x Height):	70 mm x 42.5 mm	
Connection:	CAGE CLAMP® technology max. 1.5 mm²	
Voltage:	12-240 V AC/DC	
Order no.:	**640 810 00**	**640 800 00**
	Incl. cap	Incl. cap and seal

Terminal element M12	**8 pole (up to 5 tiers)**	**5 pole (up to 4 tiers)**
Dimensions (Ø x Height):	70 mm x 59 mm	
Fixing:	Tube and Base mounting	
Voltage:	12-24 V DC	
Current carrying capacity:	≤ 2 A	
Order no.:	**640 880 00**	**640 870 00**
	Incl. cap and seal	

🛠 ACCESSORIES:

Base with integrated tube	**975 840 10**
Base for tube (metal)	**975 840 91**
Tube Ø 25 mm, Aluminium eloxiert	
100 mm long	**975 845 10**
250 mm long	**975 840 25**
400 mm long	**975 840 40**
600 mm long	**975 840 60**
800 mm long	**975 840 80**
1000 mm long	**975 840 03**
Further accessories can be found on page 80.	

↔ TECHNICAL DIAGRAMS: next page

640.820.00
640.830.00
max. 90 g

640.800.00
640.810.00
max. 82 g

640.860.55
640.850.55
80 g

IP65

+50°C
-20°C

24 V
PLC

Kombi*SIGN* 71 - USB Terminal Element



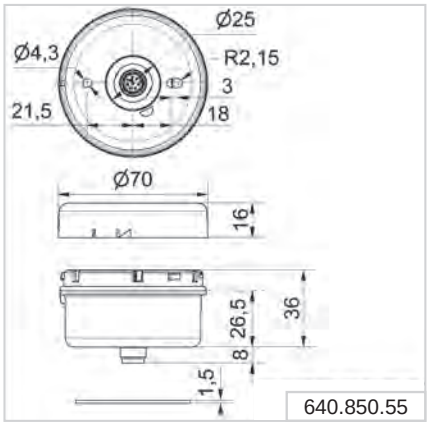
Direct triggering of the signal tower elements via USB Interface

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

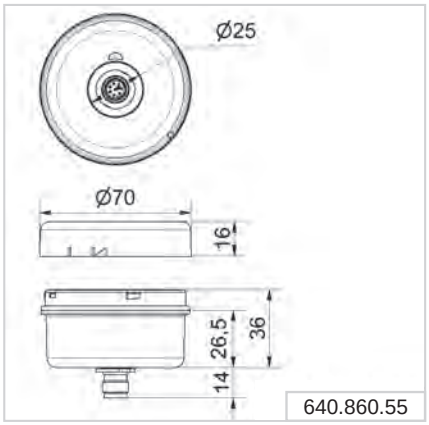
Terminal element with USB Interface	
Dimensions (Ø x Height):	70 mm x 36 mm
Fixing:	Tube mounting
Connection:	Via USB (Type B)
Voltage:	Terminal element: Via USB (5 V DC)
Voltage:	24 V DC
Current carrying cap. ∑ Imax:	90 mA at 24 V
Order no.:	**640 840 00**
Assembly:	Assembly includes installation software, drivers, handbook and USB connection cable (length 1.8 m)
Suitable for:	Windows®, System requirements – see Handbook

- Direct triggering of signal tower elements via USB Interface
- Simple integration into any customer-specific software
- No additional power supply or hardware necessary
- Up to five signal towers with a maximum of five tiers each can be connected
- Maximum cable length 5m

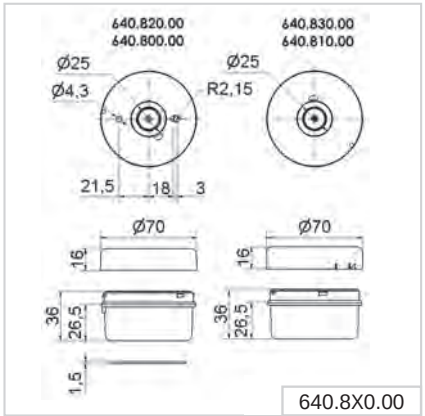
↔ TECHNICAL DIAGRAMS:



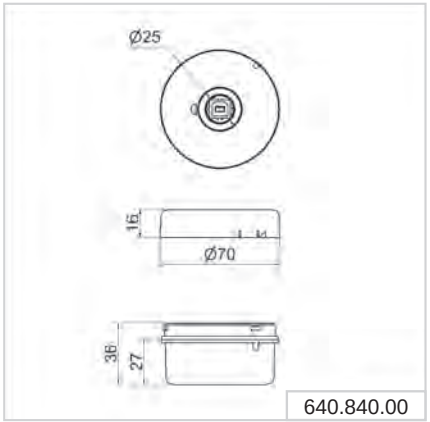
640.850.55



640.860.55



640.8X0.00



640.840.00

Kombi*SIGN* 71 - AS-Interface Element



Cable not included in assembly

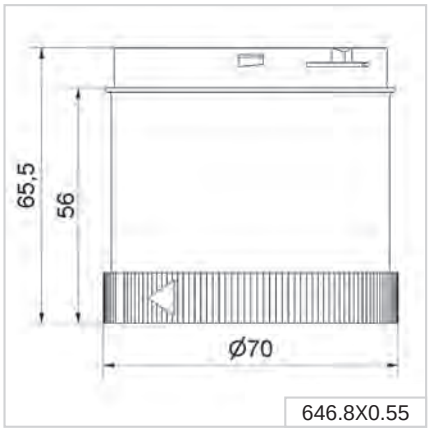


LEDs display the current status

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Specif. Power supply AS-Interface Element:	Via bus conduction	
Operating voltage:	18.5 V … 31.6 V according to the AS-Interface specification	
Reverse battery protection:	Integrated	
Watchdog:	Integrated	
	Standard Slave	**A/B-Slave**
Number of addresses:	Max. 31	Max. 62
Number of tiers:	Max 4	Max. 3
IO-Code:	8_{Hex}	8_{Hex}
ID-Code:	F_{Hex}	A_{Hex}
ID2-Code:	N/A	E_{Hex}
Outputs:	4 semiconductor relays	3 semiconductor relays
Approved in accordance with:	Spec. V 3.0	Spec. V 3.0
Order no.:	**646 830 55**	**646 810 55**
	With internal add. voltage	With external add. voltage
Additional external voltage:	24 V DC	24 V DC
Current carrying cap. ∑ Imax:	200 mA	200 mA per signal
Current consumption max:	235 mA	≤ 50 mA
Voltage at signal element:	20 V ... 30 V DC	24 V +/- 10%
Short circuit/overload protection:	Integrated	Pre-fuse M 1.6 A

↔ TECHNICAL DIAGRAMS:



Class 2

Standard Slave A/B-Slave

Andon*LIGHT*

Your benefits

The introduction to professional call-for-action systems: the easy-to-retrofit Andon products in combination with WERMA Kombi*SIGN* 71 and Kombi*SIGN* 72 signal towers. With these products it is easy to improve safety and efficiency in the workplace.

- Rapid assistance reduces waiting times
- Reduces response times and prevents shutdowns
- Intuitive and self-explanatory light system
- More reliability and efficiency (no running about, calling out, etc.)
- It can be expanded to a networked system at any time



Typical applications

- Professionally signal problems at workstations
- Manage supply of materials to workstations
- Optimise processes

Initial startup

- Simply connect Andon*LIGHT* with mains plug

Features

- Enables up to eight different statuses to be activated
- Signal directly on the signal tower with Andon*CONTROL*
- Activate signals on the signal tower with Andon Smart*BOX*

This is how you put together your Andon*LIGHT* system

ANDON PRODUCT

Base mounting



Andon*CONTROL*
Order no. **860 640 07**

Aluminium profile mounting/Wall mounting



Andon Smart*BOX*
incl. Power supply
Order no. **860 000 09**

SIGNAL TOWER

SIGNAL ELEMENTS (UP TO A MAXIMUM OF 4)



Buzzer
Order no. **645 800 75**



2 tone siren
Order no. **645 870 75**



LED Permanent light red
Order no. **644 100 75**



LED Permanent light green
Order no. **644 200 75**



LED Permanent light yellow
Order no. **644 300 75**



LED Permanent light clear
Order no. **644 400 75**



LED Permanent light blue
Order no. **644 500 75**



Twin*LIGHT* red
Order no. **647 110 75**



Twin*LIGHT* yellow
Order no. **647 310 75**



Twin*LIGHT* green
Order no. **647 210 75**



Twin*LIGHT* clear
Order no. **647 430 75**



Twin*LIGHT* blue
Order no. **647 510 75**

Base mounting



Terminal element
Order no. **640 800 00**

Tube mounting



Terminal element +
Base with integrated tube
Order no. **640 810 00**
+ 975 840 10

Bracket mounting



Terminal element
+ Bracket for base mounting
Order no. **640 800 00**
+ 960 000 02

PRE-CONFIGURED SIGNAL TOWER

Base mounting



LED Permanent light
Order no.
649 240 02



LED Permanent light
Order no.
649 240 04



Twin*LIGHT*
Order no.
649 000 01

Tube mounting



LED Permanent light
Order no.
649 240 05



LED Permanent light
Order no.
649 240 06



Twin*LIGHT*
Order no.
649 000 02

Andon*LIGHT* - Pre-configured Signal Tower



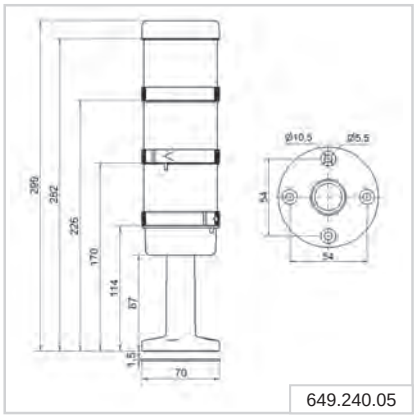
Or select one of our pre-configured variants.

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Pre-configured signal tower	**Kombi*SIGN* 71**	**Kombi*SIGN* 72**
Order No.:	**649 260 01**	**649 000 03**
Consisting of:	 644 100 75 + 644 300 75 + 644 200 75 + 640 810 00 + 975 840 10  + 860 000 09	 647 110 75 + 647 310 75 + 647 210 75 + 640 810 00 + 975 840 10  + 860 000 09

Technical details are given on the relevant product page.

↔ TECHNICAL DIAGRAMS:



649.240.05



860.000.09

EAC | 982 g | IP30 | +40°C 0°C

Andon Smart*BOX* for Signal Towers



Andon Smart*BOX* for use in industrial applications

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (B x H x T):	161 mm x 79 mm x 138 mm
Housing:	PA-GF Switches: PC
Fixing:	Base mounting, Wall mounting
Connection:	Via 5 m cable
Number of signal elements:	Max. 4 additional signal elements possible
Assembly:	Andon Smart*BOX*, power supply unit with connection cable (length 1.8 m), Adapter supplied (EU, UK, North America)
Voltage power supply unit:	100-240 V AC
Voltage signal elements:	24 V DC
Current consumption:	Max. 1 A
Order no.:	**860 000 09**

↔ TECHNICAL DIAGRAMS:



860.000.09



Interchangeable adaptors (included in assembly) and wide input voltage range make the Power Supply suitable for worldwide use

582 g
IP30
+40°C
0°C

Andon*CONTROL* / Connection Set for Kombi*SIGN* 72 and 71



Andon*CONTROL* is a simple call system for a wide variety of applications



The four push buttons can be individually labelled



With the aid of the connection set, the master/receiver from Kombi*SIGN* reflect can be used wherever an electrical socket is available (see page 55)

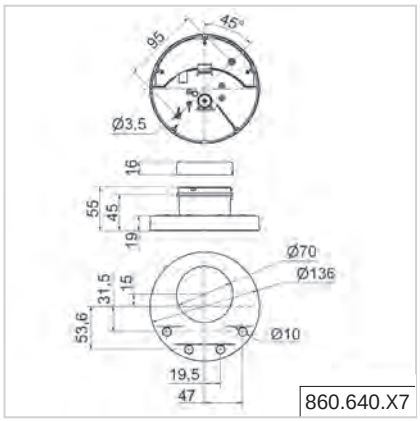
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	136 mm x 55 mm	
Housing:	Base: PC/ABS Terminal element: PA-GF, shock resistant	
Fixing:	Base mounting, Bracket mounting (accessory)	
Number of signal elements:	Max. 4 additional signal elements possible	
Assembly:	Andon*CONTROL*, power supply unit with connection cable (length 1.8 m), interchangeable adaptors for EU, UK, North America, rubber feet, cable connection	Connection Set, power supply unit with connection cable (length 1.8 m), interchangeable adaptors for EU, UK, North America, rubber feet, cable connection
Voltage power supply unit:	115-230 V AC	115-230 V AC
Voltage signal elements:	24 V DC	24 V DC
Current consumption:	Max. 1 A	Max. 1 A
Order no.:	**860 640 07**	**860 640 08**

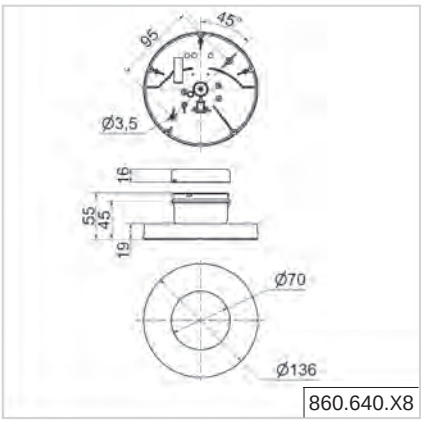
🛠 ACCESSORIES:

Mounting bracket, metal	**975 883 01**

↔ TECHNICAL DIAGRAMS:



860.640.X7



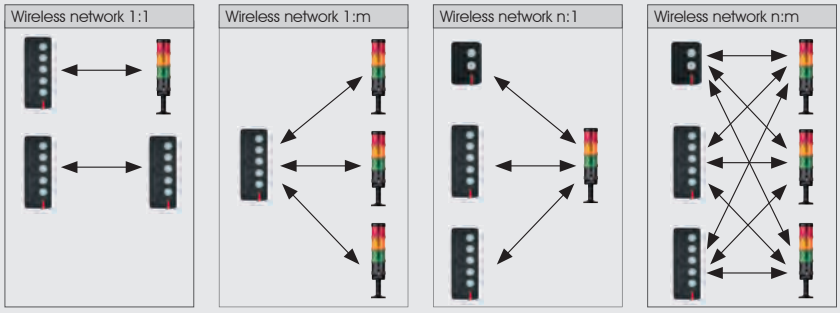
860.640.X8

860 640 07 860 640 08



Andon*WIRELESS*





Your benefits

The WERMA Andon*WIRELESS* call for action system is the quick and easy way to report, display and rectify problems in a targeted manner. Have you been mainly been solving faults and problems by shouting over to colleagues or walking around to find or provide support? Using Andon*WIRELESS*, you can now report them professionally at the push of a button. The wireless connection between the buttons and signal towers makes installation easier and faster than ever before, saving you time and money. Every button (Andon Wireless*BOX*) can be operated using mains power or battery power. This allows you to use it as a stand-alone system for mobile applications, e.g. on forklifts or supply chain vehicles. Make sure your operation is ready for future requirements and flexible for greater efficiency in the workplace.

- Andon Wireless*SET* with 5-button box (Andon Wireless*BOX*) and 3-tier signal tower
- Andon Wireless*SET* with 2-button box (Andon Wireless*BOX*) and 2-tier signal tower

Configure your individual call for action system easily and conveniently using the Quickfinder.

Typical applications

- Professional reporting of workstation problems
- Material replenishment control with acknowledgement function
- Optimisation of processes in production and logistics departments
- Access control for doors and gates

Initial startup

- Configure the button box (Andon Wireless*BOX*) and receiver (transceiver)
- Power up the button box (Andon Wireless*BOX*) via the mains plug or battery
- Integrate the receiver (transceiver) into a signal tower without needing any tools

Features

- Andon Wireless*BOX* with 2 or 5 buttons
- Signal tower with 2 to 5 tiers
- Configurable button illumination
- Multifunctional acknowledgement function
- Transceiver for wireless signal reception
- Simple configuration software
- Can be combined with control station function: easy to upgrade to Smart*MONITOR* or Andon*SPEED*

How to assemble your individual Andon Wireless*SET*



Andon Wireless*BOX* incl. Power supply
Order no. **860 000 16**
Order no. **860 000 17**



Andon Wireless*BOX* incl. Power supply
Order no. **860 000 18**
Order no. **860 000 19**



Optional:
Mounting tape
Order no. **960 860 04**



Transceiver
Order no. **862 000 03** (868 Mhz)
Order no. **862 000 05** (921 Mhz)



Andon Wireless*SET*
Basic 5 Button
Order no. **649 000 13**



Andon Wireless*SET*
Basic 2 Button
Order no. **649 000 12**

Signal elements (up to maximum of 5)



Buzzer
Order no. **645 800 75**



2 tone siren
Order no. **645 870 75**



8 tone siren
Order no. **645 890 75**



Vocal element
Order no. **645 840 55**



Twin*LIGHT* red
Order no. **647 110 75**



Twin*LIGHT* yellow
Order no. **647 310 75**



Twin*LIGHT* green
Order no. **647 210 75**



Twin*LIGHT* white
Order no. **647 430 75**



Twin*LIGHT* blue
Order no. **647 510 75**

Pre-configured signal tower

Base mounting



Twin*LIGHT*
Order no.
649 000 01

Tube mounting



Twin*LIGHT*
Order no.
649 000 02

Base mounting



Connection Set incl. Power supply
Order no. **860 640 09**



Fixing bracket
Order no. **975 883 01**

Tube mounting



Terminal element with plug
Order no. **640 000 02**



Power supply incl. adapter
Order no. **960 860 02**

Tube Ø 25 mm, all anodised

	Order no.
100 mm long	**975 845 10**
250 mm long	**975 840 25**
400 mm long	**975 840 40**
600 mm long	**975 840 60**
800 mm long	**975 840 80**
1000 mm long	**975 840 03**

Base for Tube, plastic
Order no. **975 840 90**



Base for Tube, metal
Order no. **975 840 91**



Foldable base
Order no. **960 000 30**
Order no. **960 009 12**



Base with integrated tube
Order no. **975 840 10**



Strain relief for base with integrated tube
Order no. **960 649 01**



Bracket for base mounting
Order no. **960 000 14**



Winkel für tube mounting
Order no. **960 000 01**

Base mounting



Bracket for wall mounting
Order no.
960 000 02



Bracket for 1-sided mounting
Order no.
975 840 85



Bracket for 2-sided mounting
Order no.
975 840 86

Tube mounting



Bracket for base mounting
Order no.
960 000 14



Bracket for tube mounting
Order no.
960 000 01



Buzzer
Order no. **645 800 75**



2 tone siren
Order no. **645 870 75**



8 tone siren
Order no. **645 890 75**



Vocal element
Order no. **645 840 55**



Twin*LIGHT* red
Order no. **647 110 75**



Twin*LIGHT* yellow
Order no. **647 310 75**



Twin*LIGHT* green
Order no. **647 210 75**

Twin*LIGHT* white
Order no. **647 430 75**

Twin*LIGHT* blue
Order no. **647 510 75**

Indication board
Order no. **960 000 05**

*also available in Design*LOOK*.

Kombi*SIGN* reflect for Kombi*SIGN* 72 and 71



Your benefits

Do you have a machine or a workstation that is out of your line of sight? Kombi*SIGN* reflect offers a simple solution that "reflects" the machine status to a Kombi*SIGN* signal tower in your vicinity. The two elements are paired and ready for immediate use.

- Keep track of machines or processes that are out of view
- Reduce response times and prevent shutdowns
- Repair faults quickly
- Monitor machines/areas that are not yet networked

Typical applications

- Report stoppages in complex production areas
- Manage the supply of materials where visibility is restricted
- Improve processes in complex production areas

Initial startup

- Integrate transmitter and receiver into the signal towers (no tools necessary)

Features

- Pre-configured for plug & play
- Simple reflection of machine statuses
- Large transmission range thanks to robust wireless network for production environments



Kombi*SIGN* reflect for Kombi*SIGN* 72 and 71



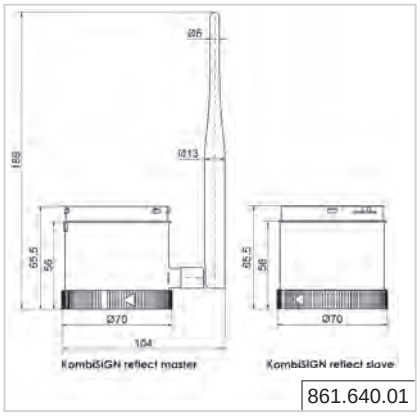
The slave sends the status directly to the master, and reflects the status of the signal tower installed on the machine

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Slave	Master
Dimensions (Ø x Height):	70 mm x 66 mm	70 mm x 66 mm (without antenna)
Housing:	Polycorbonate, black	
Connection:	Bayonet	
Wireless connection ISM frequency:	868 MHz (conforms to the EU's EN 300220 harmonised standard and can thus be used in all EU member countries) Further countries upon request	
Transmission range:	Up to 300 m (unobstructed line of sight)	
Operating voltage:	24 V AC/DC	24 V DC
Current consumption:	40 mA	40-900 mA
Order no.:	**861 640 01**	

Please check the wireless frequency. In Europe the version with 868 MHz is used. Please enquire about use in other countries.

TECHNICAL DIAGRAMS:



861.640.01



Simple monitoring of signal towers out of view



Simply fit the Kombi*SIGN* reflect slave to the signal tower on the machine

861 X40 02
receiver: class 2



Kombi*SIGN* reflect for Kombi*SIGN* 72 and 71



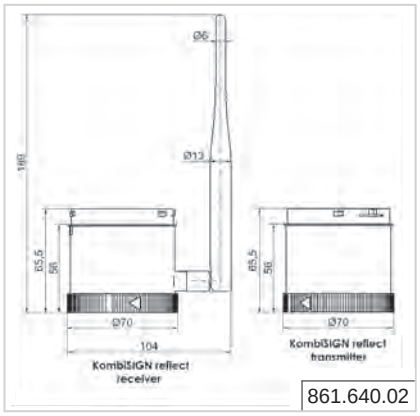
The transmitter sends the status directly to the receiver, and reflects the status of the signal tower installed on the machine

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Transmitter	Receiver
Dimensions (Ø x Height):	70 mm x 66 mm	70 mm x 66 mm (without antenna)
Housing:	Polycorbonate, black	
Connection:	Bayonet	
Wireless connection ISM frequency:	915 MHz (only for use in North America) Further countries upon request	
Transmission range:	Up to 300 m (unobstructed line of sight)	
Operating voltage:	24 V AC/DC	24 V DC
Current consumption:	40 mA	40-900 mA
Order no.:	**861 640 02**	

In North America the version with 915 MHz is used. Please enquire about use in other countries.

↔ TECHNICAL DIAGRAMS:



861.640.02



Simple monitoring of signal towers out of view



Simply fit the Kombi*SIGN* reflect transmitter to the signal tower on the machine

861 X40 02
receiver: class 2

CO_2 Traffic Light

Your benefits

With this traffic light, the current carbon dioxide concentration in the ambient air can be measured and clearly displayed using the three traffic light colours.

- The system displays its concentration in the ambient air according to CO_2 thresholds: Green (ambient air OK), yellow (ventilation recommended), red (ventilation necessary), red blinking (ventilation urgently required)
- Provides clear feedback on CO_2 concentration
- Eliminate high concentrations of carbon dioxide and aerosols in enclosed spaces based on a reliable reminder for regular intense ventilation
- Ensure hygienic and productivity-friendly ambient air quality
- Clearly visible from all positions thanks to the Omni*VIEW* lens
- Increased safety for employees and customers



Variants & typical applications

The CO_2 Traffic Light (1,000 ppm variant) is ideal for all interior spaces where people regularly spend long periods of time, such as public buildings, restaurants, shops, universities, schools and open-plan offices.

The CO_2 Traffic Light (800 ppm variant) is ideal for sensitive environments such as doctors' surgeries and hospitals.

Installation options

- Base mounting

Initial startup

Thanks to its plug&play functionality, the CO_2 traffic light can be set up quickly and easily and is immediately ready for use. The power supply is provided by the included mains adapter (230V).

Features (1,000 ppm variant)

- The traffic light is green up to 1,000 ppm*
- The traffic light is yellow from 1,000 ppm to 2,000 ppm
- The traffic light is red from 2,000 ppm to 3,000 ppm
- The traffic light blinks red from 3,000 ppm

*(The Federal Environment Agency officially recommends ventilation from 1,000 ppm / ppm = parts per million, i.e. parts by volume per million parts by volume).

Features (800 ppm variant)

- The traffic light is green up to 800 ppm**
- The traffic light is yellow from 800 ppm to 1,200 ppm
- The traffic light is red from 1,200 ppm to 2,000 ppm
- The traffic light blinks red from 2,000 ppm

** DIN EN 16798-1:2021-04



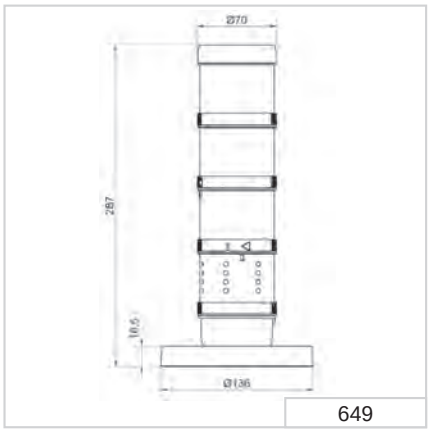
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

Dimensions (Ø x Height):	70 mm x 287 mm		
Lens:	PC, transparent		
Housing:	Base: PC/ABS, black Terminal element: PA, black		
Connection:	Plug-in connection		
Cable length:	1.5 m		
Light effects:	Blinking light, permanent light		
Life duration optical:	max. 50,000 h		
Voltage:	230 V AC		
Current consumption:	40 mA		
	1000 ppm	**800 ppm**	**1000 ppm UK/AU**
Order no.:	**649 000 10**	**649 000 14**	**649 000 15**

ACCESSORIES

Bracket	**975 883 41**

TECHNICAL DIAGRAM





649.000.15 649.000.10 649.000.14 649.000.15

CE UK CA 575 g 610 g 440 g IP20 +35°C +10°C

KOMPAKT 37 - pre-assembled Signal Tower



Your benefits

The KOMPAKT 37 is a completely pre-assembled signal tower that can be easily ordered under a single part number. With 1-5 visual tiers, the slim signal tower can be installed quickly and easily. The compact and completely enclosed construction is ideal for use in all types of public areas because it is tamper-proof.

- Up to six levels of signal escalation possible – including an audible signal
- In Classic*LOOK* or Design*LOOK* to suit all machine surfaces
- Clearly visible from all positions thanks to the Omni*VIEW* lens with no blind spots

Typical applications

Fault signalling

- on smaller machines and equipment
- on point-of-sale and access control systems

Installation options

- Single-hole mounting
- Additional installation options using accessories

Features

- Pre-assembled with easy cable connection or M12 plug for plug & play use

Size comparison KOMPAKT 37/Kombi*SIGN* 40



How to select your KOMPAKT 37 signal tower

▸ STEP 1
Select the signal tower of your choice with or without buzzer, with the appropriate connection, housing colour, voltage and number of tiers.

Part numbers can be found on page 62.

Classic*LOOK*



- 12 or 24 V
- 1-5 tiers
- With or without buzzer
- M12 plug or cable
- Black or silver finish

Design*LOOK*



▸ STEP 2
Select up to two extension tubes.

optional:



Extension tube
Order no. **960 698 02**

optional:



Extension tube
Order no. **960 698 04**

▸ STEP 3
Select the appropriate fixing accessories for your application, using for example a tube and base or a bracket mount.

Single Hole Mounting | **Bracket Mounting** | **Base Mounting** | **Single Hole Mounting** | **Bracket Mounting** | **Base Mounting**



Bracket for base mounting
Order no. **960 630 02**



Base with integrated tube
Order no. **960 698 01**



Bracket for base mounting
Order no. **960 630 06**



Base with integrated tube
Order no. **960 698 03**

▸ STEP 4
Where appropriate, select the bracket and the contact box.



Bracket for base mounting with concealed cable entry
Order no. **960 000 14**



Bracket for base mounting
Order no. **960 000 01**



Corner fixing bracket
Order no. **960 000 41**



Contact box for cable exit at side
Order no. **975 840 01**



Contact box with magnetic base and cable exit at side
Order no. **975 840 04**



Bracket for base mounting with concealed cable entry
Order no. **960 000 55**



Bracket for base mounting
Order no.**960 000 54**

Go to the signal devices page on: **www.werma.com**
Here you can use the selection tool „Configurator" to select the Kompakt 37 signal tower according to your requirements.
With the help of intuitive questions and pictures you will be able to make your choice with just a few mouse clicks.

KOMPAKT 37 - pre-assembled Signal Tower

Classic*LOOK*



Two tier Kompakt 37 with integral tube and base (accessory)



Three tier Kompakt 37 with bracket (accessory)

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimension (Ø x Height):	1 tier: 37.5 mm x 93.5 mm 2 tier: 37.5 mm x 127.5 mm 3 tier: 37.5 mm x 161.5 mm 4 tier: 37.5 mm x 195.5 mm 5 tier: 37.5 mm x 229.5 mm (Protrusion from panel)
Housing:	PC
Fixing:	Single hole mounting for Ø 22.5 mm (M22 x 1.5 mm) Base or bracket mounting (accessory)
Connection:	Cable connection: Cable, 2 m long, Plug connection: M12 Plug (1/2/3 tier: 5 pole; 4/5 tier: 8 pole)
Current consumption:	50 mA per tier / buzzer 24 V 125 mA per tier / buzzer 12 V

Nut and seal included in assembly.

Classic*LOOK* with buzzer		**Connection**	24 V AC/DC	
1 tier	red	Plug	**699 610 75**	
	yellow	Plug	**699 630 75**	
2 tier	green/red	Cable	**699 120 75**	
	yellow/red	Cable	**699 130 75**	
	green/red	Plug	**699 220 75**	
	yellow/red	Plug	**699 230 75**	
3 tier	green/yellow/red	Cable	**699 110 75**	
	green/yellow/red	Plug	**699 210 75**	
4 tier	clear/green/yellow/red	Cable	**699 140 75**	
	blue/green/yellow/red	Cable	**699 150 75**	
	clear/green/yellow/red	Plug	**699 240 75**	
	blue/green/yellow/red	Plug	**699 250 75**	
5 tier	blue/clear/green/yellow/red	Cable	**699 160 75**	
	blue/clear/green/yellow/red	Plug	**699 260 75**	
Classic*LOOK* without buzzer		**Connection**	24 V AC/DC	12 V AC/DC
2 tier	green/red	Cable	**698 120 75**	**698 120 74**
	yellow/red	Cable	**698 130 75**	-
	green/red	Plug	**698 220 75**	-
	yellow/red	Plug	**698 230 75**	-
3 tier	green/yellow/red	Cable	**698 110 75**	**698 110 74**
	green/yellow/red	Plug	**698 210 75**	-
4 tier	clear/green/yellow/red	Cable	**698 140 75**	-
	blue/green/yellow/red	Cable	**698 150 75**	-
	clear/green/yellow/red	Plug	**698 240 75**	-
	blue/green/yellow/red	Plug	**698 250 75**	-
5 tier	blue/clear/green/yellow/red	Cable	**698 160 75**	-
	blue/clear/green/yellow/red	Plug	**698 260 75**	-
Design*LOOK* with buzzer		**Connection**	24 V AC/DC	
1 tier	red	Plug	**699 810 75**	
	yellow	Plug	**699 830 75**	
2 tier	green/red	Cable	**699 320 75**	
	yellow/red	Cable	**699 330 75**	
	green/red	Plug	**699 420 75**	
	yellow/red	Plug	**699 430 75**	
3 tier	green/yellow/red	Cable	**699 310 75**	
	green/yellow/red	Plug	**699 410 75**	

Design*LOOK*



The height of the KOMPAKT 37 can be increased by max. 160 mm with the use of extension tubes, ensuring optimum visibility

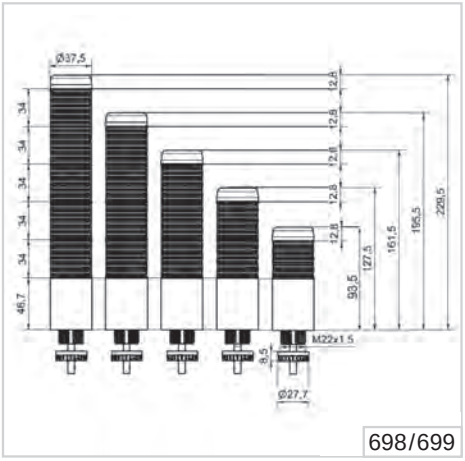
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Design*LOOK* with buzzer		Connection	24 V AC/DC
4 tier	clear/green/yellow/red	Cable	**699 340 75**
	blue/green/yellow/red	Cable	**699 350 75**
	clear/green/yellow/red	Plug	**699 440 75**
	blue/green/yellow/red	Plug	**699 450 75**
5 tier	blue/clear/green/yellow/red	Cable	**699 360 75**
	blue/clear/green/yellow/red	Plug	**699 460 75**
Design*LOOK* without buzzer		**Connection**	24 V AC/DC
2 tier	green/red	Cable	**698 320 75**
	yellow/red	Cable	**698 330 75**
	green/red	Plug	**698 420 75**
	yellow/red	Plug	**698 430 75**
3 tier	green/yellow/red	Cable	**698 310 75**
	green/yellow/red	Plug	**698 410 75**
4 tier	clear/green/yellow/red	Cable	**698 340 75**
	blue/green/yellow/red	Cable	**698 350 75**
	clear/green/yellow/red	Plug	**698 440 75**
	blue/green/yellow/red	Plug	**698 450 75**
5 tier	blue/clear/green/yellow/red	Cable	**698 360 75**
	blue/clear/green/yellow/red	Plug	**698 460 75**

🛠 ACCESSORIES:

	Classic*LOOK*	Design*LOOK*
Base with integrated tube	**960 698 01**	**960 698 03**
Extension tube	**960 698 02**	**960 698 04**
Cable 5 m with M12 plug (5 pole)	**960 693 05**	
Cable 5 m with M12 plug (8 pole)	**960 000 47**	
Cable 5 m with M12 connector and plug (8 pole)	**960 000 46**	
Bracket for base mounting	**960 698 05**	-
Further accessories can be found on page 74.		

↔ TECHNICAL DIAGRAM:



698/699

Class 2

699

e*SIGN* - electronic modular signal tower



Your benefits

The new e*SIGN* brings new dimensions to light. Electronic modularity enables the product to create a variety of signal modes with various colours, brightness levels and light effects, from the classic signal tower to completely customised settings. e*SIGN* can also switch with ease between variable filling level indications or full-surface signalling. In addition to providing you with an overview of your process cycles, this also opens up completely new options.

- Full-surface signalling: Clear, unmistakeable light effects for maximum visibility
- Versatile customisation options: Different modes, light effects and tones for diverse applications
- Robust industrial design: UL Type 4X ensures resistance to UV radiation and environmental influences
- The right product for every application: 2 sizes, with/without siren, 24 V supply voltage / versions with IO-Link technology, black/white housing

Typical applications

The new definition of the industry standard to signal faults

- on machinery and equipment
- on automated systems
- in assembly plants, for example, in the automotive industry
- on conveyor belts in production and logistics

Installation options

- Base mounting, Wall mounting, Tube mounting

Features

- Classic signal tower indication in individual tiers
- Autoscale mode for full-surface signalling and optimum visibility
- Variable filling level indication from 0 to 100 %
- Individual triggering to suit your requirements
- 9 or 15 segments, freely triggerable
- With or without siren
- Standard 24 V version with transfer of the configuration via USB
- Version with IO-Link technology
- M12 connection
- Duration of the acoustic warning adjustable
- A specific acoustic warning can be assigned to each optical warning
- Fraunhofer IPA approval, fulfills Air Cleanliness Class 2 for Cleanroom applications in accordance with DIN EN ISO 14644-1

Size comparison Clear*SIGN* / Kombi*SIGN* 72




ALSO IN
WHITE!
WERMA
WERMA

eSIGN - black



eSIGN with 15 segments



eSIGN with 9 segments



eSIGN with 6 segments

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	15 segments	9 segments	6 segments
Dimensions (Ø x Height):	72,5 mm x 371,5 mm	72,5 mm x 271 mm	72,5 mm x 219 mm
Housing:	PC		
Lens colour/ Housing colour:	clear/black		
Fixing:	Base mounting, wall mounting, tube mounting		
Connections:	M12 connector 4 pole (IO Link) 8 pole (standard 24 V)		
Light effects:	LED/Multicolour, various colours configurable Permanent, blinking, flashing, double flash, triple flash, rotating		
Tone types:	Multi-tone, 10 tones are configurable		
Volume:	max. 105 dB (A), 4 stages / 80-105 dB (A) depending on tone type		
Voltage:	24 V DC	24 V DC	24 V DC
Current consumption:	620 mA (with siren) 555 mA (without siren)	405 mA (with siren) 335 mA (without siren)	325 mA (with siren) 255 mA (without siren)
With siren			
24 V	**657 600 55**	**657 100 55**	**657 430 55**
IO Link	**657 610 55**	**657 110 55**	**657 450 55**
Without siren			
24 V	**657 500 55**	**657 000 55**	**657 420 55**
IO Link	**657 510 55**	**657 010 55**	**657 440 55**

🛠 ACCESSORIES

Tube Ø 25 mm, all anodised 100 mm long	**975 845 10**
250 mm long	**975 840 25**
Base for tube, plastic	**975 840 90**
Base for tube, metal	**975 840 91**
Base with integrated tube	**960 000 64**
Bracket for 1-sided mounting	**960 000 65**
Bracket for base mounting	**960 000 01**
Corner fixing bracket	**960 000 41**
Cable 5m with M12 connector and plug	**960 000 46**
Cable 5m with M12 plug	**960 000 47**
USB cabel type C to type A 0,5m (for transferring the configuration)	**960 000 69**
Further accessories can be found on page 74.	

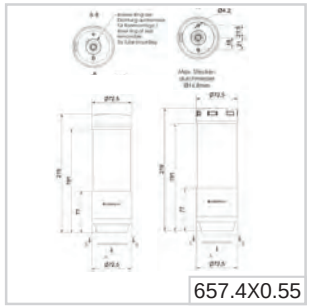
↔ TECHNICAL DIAGRAMS:



657.6X0.55/657.5X0.55



657.1X0.55/657.0X0.55



657.4X0.55

657.6x0.55
657.5x0.55
657.1x0.55
657.0x0.55
657.4x0.55

eSIGN - white

eSIGN with 15 segments



eSIGN with 9 segments



eSIGN with 6 segments

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	15 segments	9 segments	6 segments
Dimensions (Ø x Height):	72,5 mm x 371,5 mm	72,5 mm x 271 mm	72,5 mm x 219 mm
Housing:	PC		
Lens colour/ Housing colour:	clear/white		
Fixing:	Base mounting, wall mounting, tube mounting		
Connections:	M12 connector 4 pole (IO Link) 8 pole (standard 24 V)		
Light effects:	LED/Multicolour, various colours configurable Permanent, blinking, flashing, double flash, triple flash, rotating		
Tone types:	Multi-tone, 10 tones are configurable		
Volume:	max. 105 dB (A), 4 stages / 80-105 dB (A) depending on tone type		
Voltage:	24 V DC	24 V DC	24 V DC
Current consumption:	620 mA (with siren) 555 mA (without siren)	405 mA (with siren) 335 mA (without siren)	325 mA (with siren) 255 mA (without siren)
With siren			
24 V	**657 800 55**	**657 300 55**	**657 930 55**
IO Link	**657 810 55**	**657 310 55**	**657 950 55**
Without siren			
24 V	**657 700 55**	**657 200 55**	**657 920 55**
IO Link	**657 710 55**	**657 210 55**	**657 940 55**

🛠 ACCESSORIES

Tube Ø 25 mm, all anodised 100 mm long	**975 845 10**
250 mm long	**975 840 25**
Base for tube, plastic	**975 840 90**
Base for tube, metal	**975 840 91**
Base with integrated tube	**960 000 64**
Bracket for 1-sided mounting	**960 000 65**
Bracket for base mounting	**960 000 01**
Corner fixing bracket	**960 000 41**
Cable 5m with M12 connector and plug	**960 000 46**
Cable 5m with M12 plug	**960 000 47**
USB cabel type C to type A 0,5m (for transferring the configuration)	**960 000 69**
Further accessories can be found on page 74.	

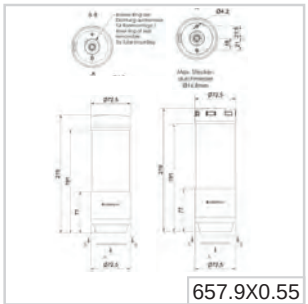
↔ TECHNICAL DIAGRAMS:



657.8X0.55/657.7X0.55

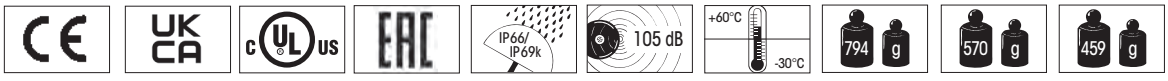


657.3X0.55/657.2X0.55



657.9X0.55

657.8x0.55
657.7x0.55
657.3x0.55
657.2x0.55
657.9x0.55



RST 56 - pre-assembled Signal Tower

Your Benefits

The new "RST" LED signal towers from WERMA impress with their modern, sleek appearance, outstanding performance and versatile application options. With its integrated design, it not only offers a refined and attractive appearance, but also homogeneous illumination and optimum visibility of the illuminated signals in all directions.

The aesthetic signal tower also impresses with sophisticated features, a compact, slim diameter of 57 mm, multiple mounting options and a high protection rating of IP 66 / IP 69k.

- Modern & robust industrial design
- 2 to 5 tiers
- 360° visibility - no blind spots
- Buzzer: Maximum 90 dB
- Can be connected via cable or M12
- Tamper-proof for public areas
- The IP66/IP69K degree of protection enables use in a wide range of environments



Typical applications

Signalling faults

- on machines and systems
- on automation systems
- on assembly systems, e.g. in the automotive industry
- on conveyor belts in production and logistics

Installation options

- Base/pipe mounting
- flush mounting
- Other mounting types possible via accessories

Features

- Homogeneous light pattern
- Compact design ensures space-saving installation

RST 56 - Base/Tube mounting



4 tier RST 56 for
base and tube mounting



2 tier RST 56 for
base and tube mounting

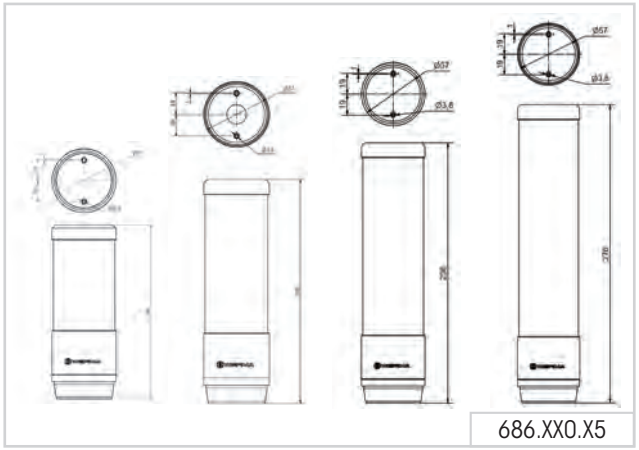
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

	Base or Tube mounting	
Dimensions (Ø x Height):	2 tier: 57 mm x 156 mm 3 tier: 57 mm x 196 mm 4 tier: 57 mm x 236 mm 5 tier: 57 mm x 276 mm	
Housing:	PC/ABS	
Lens/Housing:	transparent/black	
Light effects:	LED Permanent light	
Tone type:	Continuous tone, Pulse tone	
Sound output:	82 or 90 dB (A), adjustable via dip switch	
Voltage:	24 V DC	
With buzzer	**Push-in terminals (24 V)**	**Current consumption**
green, red	**686 260 35**	100 mA
green, yellow, red	**686 370 35**	150 mA
blue, green, yellow, red	**686 480 35**	185 mA
white, blue, green, yellow, red	**686 590 35**	230 mA
Without buzzer	**Push-in terminals (24 V)**	**Current consumption**
green, red	**686 260 05**	70 mA
green, yellow, red	**686 370 05**	125 mA
blue, green, yellow, red	**686 480 05**	160 mA
white, blue, green, yellow, red	**686 590 05**	205 mA

ACCESSORIES

Tube Ø 25 mm, all anodised , 100 mm long	**975 845 10**
250 mm long	**975 840 25**
Base for Tube, plastic	**975 840 90**
Base for Tube, metal	**975 840 91**
Base with integrated tube	**960 000 64**
Bracket for base mounting with concealed cable entry	**960 000 14**
Bracket for tube mounting	**960 000 01**
Corner fixing bracket	**960 000 41**
Further accessories can be found from page 80.	

TECHNICAL DIAGRAM



686.XX0.X5

IP66/
IP69k
90 dB
+50°C
-30°C
2 tier 198 g
3 tier 239 g
4 tier 279 g
5 tier 316 g

RST 56 - Installation mounting



2 tier RST 56
for installation mounting



5 tier RST 56
for installation mounting

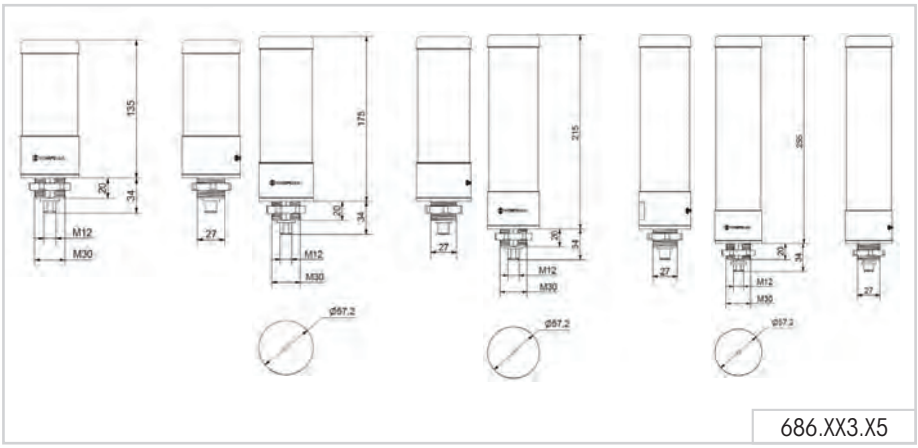
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

	Installation mounting	
Dimensions (Ø x Height):	* (Protrusion from panel) 2 tier: 57 mm x 135 mm* 3 tier: 57 mm x 175 mm* 4 tier: 57 mm x 215 mm* 5 tier: 57 mm x 255 mm*	
Housing:	PC/ABS	
Lens/Housing:	transparent/black	
Light effects:	LED Permanent light	
Tone type:	Continuous tone	
Sound output:	90 dB (A)	
Voltage:	24 V DC	
With buzzer	**M12 connector**	**Current consumption**
green, red	**686 263 15**	100 mA
green, yellow, red	**686 373 15**	150 mA
blue, green, yellow, red	**686 483 15**	185 mA
white, blue, green, yellow, red	**686 593 15**	230 mA
Without buzzer	**M12 connector**	**Current consumption**
green, red	**686 263 05**	70 mA
green, yellow, red	**686 373 05**	125 mA
blue, green, yellow, red	**686 483 05**	160 mA
white, blue, green, yellow, red	**686 593 05**	205 mA

ACCESSORIES

Fixing bracket	**960 009 32**
5m cable with M12 socket	**960 693 05**

TECHNICAL DIAGRAM



IP66/ IP69k | 90 dB | +50°C / -30°C

2 tier	3 tier	4 tier	5 tier
188 g	232 g	276 g	320 g

RST 56 - Pre-configured signal tower - Tube mounting



3 tier
pre-configured RST 56

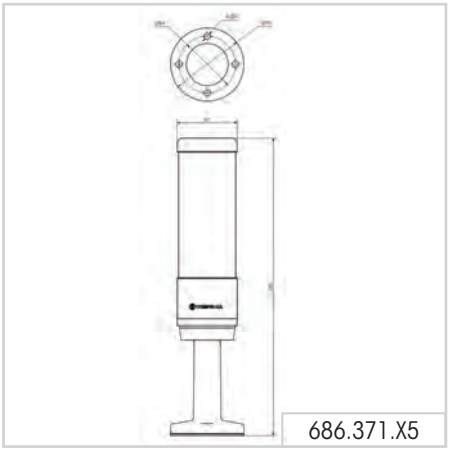
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

	Tube mounting	
Dimensions (Ø x Height):	3 tier: 57 mm x 286 mm	
Housing:	PC/ABS	
Lens/Housing:	transparent/black	
Light effects:	LED Permanent light	
Tone type:	Continuous tone, Pulse tone	
Sound output:	82 or 90 dB (A), adjustable via dip switch	
Voltage:	24 V DC	
With buzzer	**Push-in terminals (24 V)**	**Current consumption**
green, yellow, red	**686 371 35**	150 mA
Without buzzer	**Push-in terminals (24 V)**	**Current consumption**
green, yellow, red	**686 371 05**	125 mA

ACCESSORIES

Bracket for base mounting with concealed cable entry	**960 000 14**
Bracket for base mounting	**960 000 01**
Corner fixing bracket	**960 000 41**

TECHNICAL DIAGRAM



de*SIGN* 42 - pre-assembled Signal Tower



Your benefits

Thanks to its high-quality stainless steel housing, the de*SIGN* 42 signal tower is an ideal accompaniment to modern, design-oriented assembly lines, production facilities and machinery. The robust housing provides the key benefit of being tamper-proof for installations in public areas.

- Elegant industrial design
- Tamper-proof for public areas

Typical applications

Fault signalling

- on machinery and equipment

Access control

- on control points in public areas

Installation options

- Single-hole mounting
- Bracket mounting using accessories

Features

- High-quality, robust stainless-steel housing
- Award-winning design

Size comparison de*SIGN* 42 / Kombi*SIGN* 72





TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

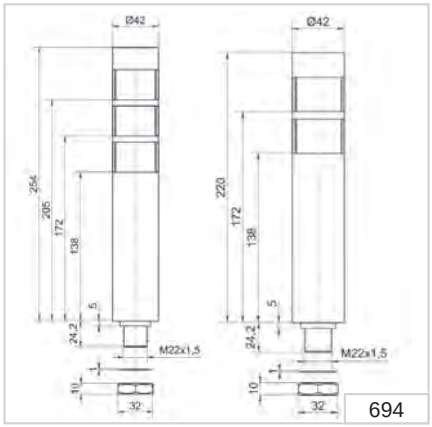
	2 tier	3 tier
Dimensions (Ø x Height):	42 mm x 221 mm	42 mm x 255 mm
Housing:	Stainless steel, brushed	
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)	
Connection:	Cable, 2 m long, included in assembly	
Voltage:	24 V DC	24 V DC
Current consumption:	50 mA per tier	50 mA per tier
red/green	**694 010 55**	-
red/yellow	**694 020 55**	-
red/yellow/green	-	**694 000 55**

ACCESSORIES:

Surface housing single	**975 109 02**
Bracket, stainless steel (Protection rating IP 33)	**960 694 01**



TECHNICAL DIAGRAMS:



Clean*SIGN* - pre-assembled Signal Tower



Your benefits

The Clean*SIGN* signal tower has been specifically developed and certified for use in clean rooms, food and hygiene areas as well as the pharmaceutical industry. The signal tower ensures maximum safety in these environments by reducing the risk of contamination.

- Reliable signalling even in clean rooms
- Easy-to-clean, hygienic design for optimal cleaning and disinfection
- Ensures food safety through the absence of uneven surfaces, elevated or countersunk elements where dirt can accumulate
- Use of food safe materials (FDA approved) and resistant to cleaning agents
- Application-specific selection of colours and light effects for maximum flexibility

Typical applications

Fault signalling

- in clean rooms, e.g. semiconductor and solar industries
- in the food and beverage industry
- in pharmaceutical and cosmetic industries

Installation options

- Base mounting
- Ceiling mounting
- Wall mounting

Features

- Fraunhofer IPA approval
  - » Bracket mounting fulfills Air Cleanliness Class 1 for Cleanroom applications in accordance with DIN EN ISO 14644-1
  - » Base or Ceiling mounting fulfills Air Cleanliness Class 1
- Electronic modularity of the individual tiers (colour and light effects individually adjustable/ can be externally triggered)

Size comparison Clean*SIGN* / Kombi*SIGN* 72





Fixed, three tier colour distribution in red, yellow and green

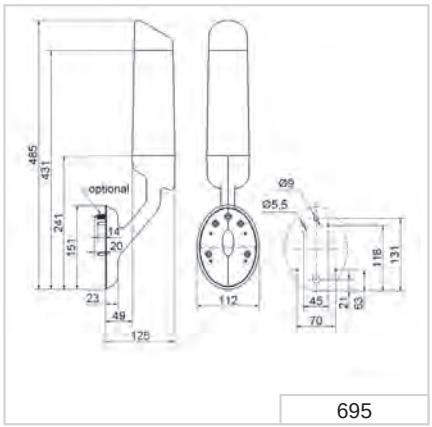


The "EVS" light effect ensures a maximum attention-grabbing effect (can be set with complete illumination)

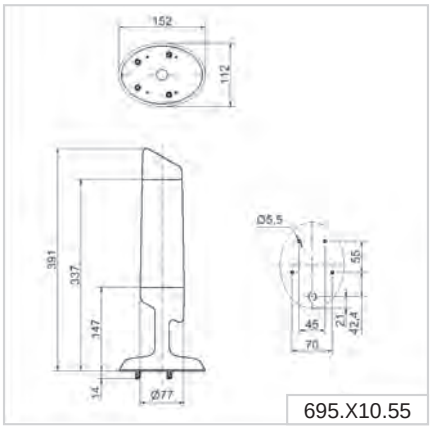
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Wall mounting	Base/Ceiling mounting
Dimensions (L x H x W):	112 mm x 485 mm x 125 mm	112 mm x 391 mm x 125 mm
Housing:	PA, black	
Lens:	PA, transparent	
Fixing:	Wall mounting, integrated mounting bracket Base mounting, Ceiling mounting	
Sound output:	85 dB (A)	
Clean*SIGN* red/green/yellow		
Connection:	Cable, 2 m long, included in the assembly	
Colours:	Pre-set colours: red/yellow/green	
Voltage:	24 V DC	
Current consumption:	Optical: < 120 mA per tier Buzzer: < 20 mA	
Order no.:	**695 300 55**	**695 310 55**
Clean*SIGN* RGY		
Connection:	Screw terminal max. 1.5 mm²	
Colours:	Colours selectable by dip-switch: red/yellow/green	
Voltage:	24 V DC	
Current consumption:	Optical: < 240 mA Buzzer: < 20 mA	
Order no.:	**695 200 55**	**695 210 55**
Clean*SIGN* RGB		
Connection:	Screw terminal max. 1.5 mm²	
Colours:	Red, yellow, green, white, blue, violet, turquoise Colours selectable by dip-switch	
Light effects:	Tier-by-tier illumination: Blinking light Complete illumination: EVS	
Voltage:	24 V DC	
Current consumption:	Optical: < 240 mA Buzzer: < 20 mA	
Order no.:	**695 000 55**	**695 010 55**

TECHNICAL DIAGRAMS:



695



695.X10.55

695.300.55 557 g | 695.310.55 534 g | 695.200.55 426 g | 695.210.55 419 g | 695.000.55 451 g | 695.010.55 444 g | IP67/ IP69k | +50°C -30°C | 85 dB

Flat*SIGN* - pre-assembled Signal Tower

Your benefits

The curved front of the Flat*SIGN* signal tower housing enables it to blend in uniformly with machine and building service applications. The 160-degree visibility angle ensures exceptional visibility even from the side.

- Easy to install – also on flush-mount enclosures
- Twin*LIGHT* combines two easily selectable light effects

Typical applications

Fault signalling or Access control

- in building service applications (e.g. server and equipment rooms)
- at access points in public areas

Installation options

- Wall mounting
- Additional installation options using accessories

Features

- Permanent or blinking light selectable
- Available with transparent housing or in metal design
- Optional integrated audible signal



TwinLIGHT

Size comparison Flat*SIGN* / Kombi*SIGN* 72





In its inactive state, the signal tower blends into the background thanks to its colourless, translucent housing



Flat*SIGN* in metallic finish



The fixing kit consists of two tube clamps and an adaptor (accessory)

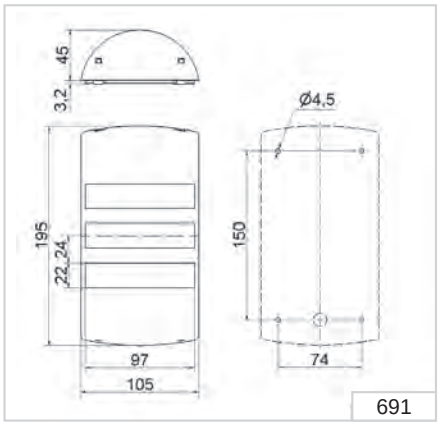
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	Multi-tone Sounder	Buzzer (Continuous tone)
Dimensions (L x H x W):	105 mm x 195 mm x 45 mm	
Lower part:	PC-ABS, black	
Upper part:	PC, transparent or silver	
Fixing:	Wall mounting	
Cable entry:	Cable diameter max. 11 mm	
Connection:	Screw terminal max. 1.5 mm^2	
Light effects:	Permanent or blinking light selectable	
Audible signal:	Buzzer or multi-tone sounder (8 tones)	
Sound output:	Max. 80 dB (A)	
Colours:	Green, yellow, red	
Voltage:	24 V DC	115-230 V AC
Current consumption:	Optical: 30 mA per tier Audible: 30 mA	
Flat*SIGN* with transparent housing		
Flat*SIGN* without audible signal	**691 100 55**	**691 100 68**
Flat*SIGN* with audible signal	**691 200 55**	**691 200 68**
Flat*SIGN* in Metal Design		
Flat*SIGN* without audible signal	**691 300 55**	**691 300 68**
Flat*SIGN* with audible signal	**691 400 55**	**691 400 68**

🛠 ACCESSORIES:

Fixing Kit	**975 691 01**

↔ TECHNICAL DIAGRAMS:



Max. 691.X00.55



Vario*SIGN* - pre-assembled Signal Tower



Your benefits

With the Vario*SIGN* light effects and colours can be individually set and adjusted via dip-switches at any time - depending on the variant. The eye-catching illumination of the entire lighting body ensures an exceptional appearance and visibility.

- Flexible selection of colours and light effects
- Award-winning design

Typical applications

Fault signalling

- on machinery and equipment
- on automation systems

Installation options

- Base mounting

Features

- Optional integrated sounder
- Electronic modularity: i.e. colours and light effects are adjustable for each tier

Size comparison Vario*SIGN* / Kombi*SIGN* 72





Fixed, three-tier colour distribution in red, yellow and green

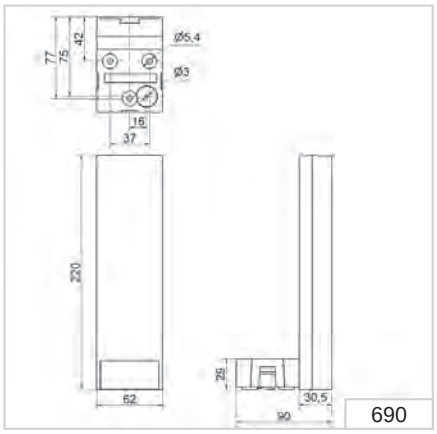


The "EVS" light effect ensures a maximum attention-grabbing effect (single colour distribution can be selected)

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

	With buzzer	Without buzzer
Dimensions (L x H x W):	62 mm x 220 mm x 90 mm	
Housing:	PC/ABS-Blend, black	
Lens:	PC, transparent	
Fixing:	Base mounting	
Cable entry:	Cable diameter max. 11 mm	
Connection:	Screw terminal max. 1.5 mm²	
Vario*SIGN* - red/yellow/green		
Colours:	Pre-set colours (red/yellow/green)	
Voltage:	24 V DC	
Current consumption:	Optical: < 55 mA per tier Buzzer: < 20 mA	
2-sided	**690 300 55**	**690 320 55**
Vario*SIGN* - RGY		
Colours:	Red, yellow, green Colours selectable by Dip-switch	
Voltage:	24 V DC	
Current consumption:	Optical: < 120 mA Buzzer: < 20 mA	
2-sided	**690 200 55**	**690 220 55**
Vario*SIGN* - RGB		
Colours:	Red, yellow, green, white, blue, violet, turquoise Colours selectable by Dip-switch	
Light effects:	Tier-by-tier illumination: Flashing light Complete illumination: EVS	
Voltage:	24 V DC	
Current consumption:	Optical: < 300 mA Buzzer: < 20 mA	
2-sided	**690 000 55**	-

↔ TECHNICAL DIAGRAMS:



690.300.55 240 g | 690.320.55 234 g | 690.200.55 245 g | 690.220.55 237 g | 690.000.55 256 g | IP65 | +50°C -30°C | 85 dB

Overview Accessories for Signal Towers

Overview Accessories for Signal Towers								
			Classic*LOOK* Design*LOOK*	Classic*LOOK* Design*LOOK*	Classic*LOOK* Design*LOOK*			
Accessory	**Picture**	**Kombi*SIGN* 71**	**Kombi*SIGN* 72**	**Kombi*SIGN* 40**	**KOMPAKT 37**	**e*SIGN***	**RST 56**	**Page**
Cable, 5m		●				●		82
Bulb BA15d		●						82
Bracket for surface mounting, incl. cable gland M16 x 1.5		●						82
Bracket for 1-sided mounting, incl. rubber seal		●	●	●		●		82
Bracket for 2-sided mounting, incl. rubber seal		●	●	●				82
Bracket for tube mounting, incl. cable gland M16 x 1.5		●	●	●		●	●	86
Bracket for base mounting, with concealed cable entry, incl. rubber seal		●	●	●	● ●	● ●		●	86
Corner fixing bracket KOMPAKT 37 with Base-mount tube		●	●	●	● ●	● ●	●	●	86
Bracket for assembly on aluminium profiles, incl. cable gland M12 x 1.5		●	●	●	● ●				86
Bracket for concealed cable entry					● ●	● ●			86
Tube Ø 25 mm plastic, for direct mounting of the terminal element onto the Foldaway Base					● ●			●	84
Tube Ø 25 mm, all anodised aluminium		●	●	●				●	84
Tube with clamp Ø 25 mm, 250 mm long, incl. cable gland		●	●	●	● ●			●	84
Base with integrated tube Ø 25 mm, 110 mm long, plastic, incl. rubber seal		●	●	●	● ●			●	84
Base for tube Ø 25 mm, plastic, incl. rubber seal		●	●	●	● ●			●	84
Base for tube Ø 25 mm, metal, incl. rubber seal		●	●	●	● ●			●	84
Base with integrated tube						● ●			88
Kombi*SIGN* reflect		●	●	●					82

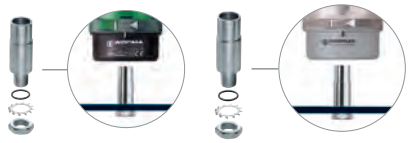
Overview Accessories for Signal Towers			Classic*LOOK* Design*LOOK*		Classic*LOOK* Design*LOOK*		Classic*LOOK* Design*LOOK*				
											
Accessory	**Picture**	Kombi*SIGN* 71	Kombi*SIGN* 72		Kombi*SIGN* 40		KOMPAKT 37		e*SIGN**	RST 56	**Page**
Cable gland for surface mounting, M16 x 1.5		●	●	●	●	●					84
Adaptor for single hole mounting, Ø 25 mm, M18		●	●	●							82
Adaptor for tube mounting Ø 25 mm		●	●	●							82
Indication board		●	●	●	●	●					82
Foldaway Base, Signal Tower can be folded away, incl. rubber seal		●	●	●	●	●			●	●	84
Foldaway Base, Signal Tower can be folded away, incl. rubber seal		●	●	●	●	●				●	84
Contact box for cable exit at side		●	●	●	●	●	●	●	●		86
Contact box with magnetic base and cable exit at side		●	●	●	●	●	●	●	●		86
Extension tube							●	●			88

* Usage of accessory dependent on version and connection cable. Please check instruction leaflet for compatibility.

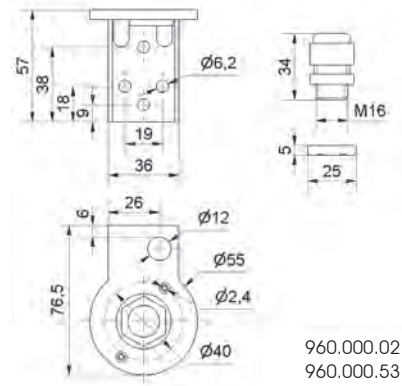
Overview Accessories for Signal Towers					
Accessory	**Picture**	de*SIGN* 42	Flat*SIGN*	CO_2 Traffic Light	**Page**
Surface housing single		●			90
Fixing kit			●		90
Fixing bracket				●	90

Overview Accessories for Signal Towers

Accessories

	Cable 5 m with M12 plug + socket **Order no. 960 000 46** Cable 5 m with M12 socket **Order no. 960 000 47** Cable 5 m with M12 plug **Order no. 960 860 01**	KombiSIGN 71
	Bulb BA15d, total length max. 42 mm 12 V, 5 Watt **955 840 34** 24 V, 5 Watt **955 840 35** 30 V, 5 Watt **955 840 32** 115 V, 5 Watt **955 840 57** 230 V, 5 Watt **955 840 38**	KombiSIGN 71
	Bracket for surface mounting incl. cable gland M16 x 1.5 **Order no. 960 000 02** Bracket for surface mounting incl. cable gland M16 x 1.5 **Order no. 960 000 53**	KombiSIGN 71, 72
	Adaptor for single hole mounting Ø 25 mm, M18 **Order no. 960 000 25**	KombiSIGN 71, 72
	Adaptor for single hole mounting Ø 25 mm, M18 **Order no. 960 000 25**	KombiSIGN 71, 72
	Bracket for 1-sided mounting,incl. rubber seals **Order no. 975 840 85** Bracket for 1-sided mounting,incl. rubber seals **Order no. 960 000 52**	KombiSIGN 71, 72
	Bracket for 2-sided mounting,incl. rubber seals **Order no. 975 840 86**	KombiSIGN 71, 72
	Kombi*SIGN* reflect **Order no. 861 640 01** **Order no. 861 640 02**	KombiSIGN 71, 72
	Indication board (for tube mounting) **Order no. 960 000 05** Dimensions of indication board (W x H): 153 x 345 mm Surface area per section (W x H): c. 144 x 54 mm Avery/Zweckform 3424 (105 x 48 mm), Herma 4281 (105 x 50.8 mm) (not included in assembly) Material: PMMA • For one to five modules • Simple mounting onto signal tower tube • Ample space for written information • Simply break off unwanted segments	KombiSIGN 71, 72

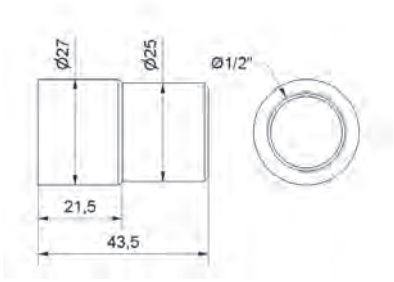
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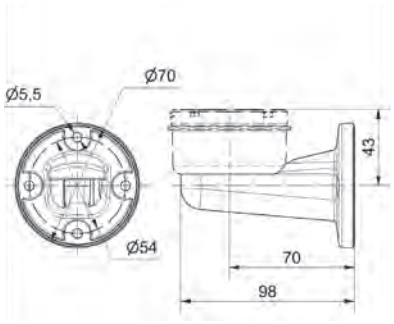
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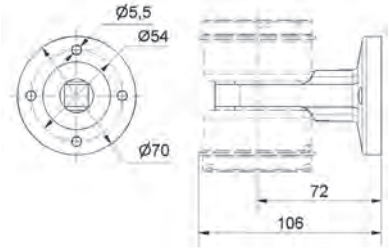
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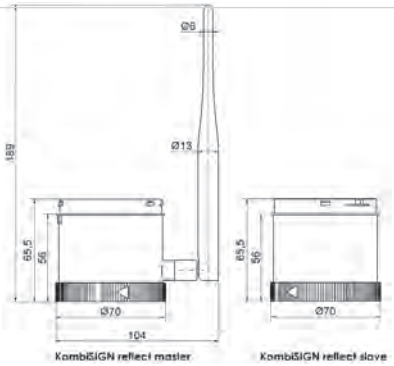
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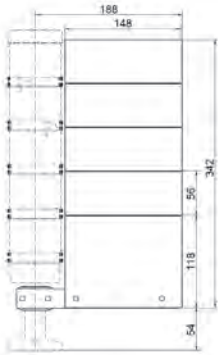
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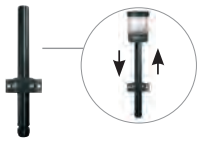
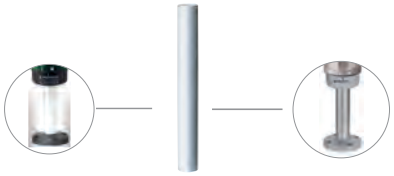
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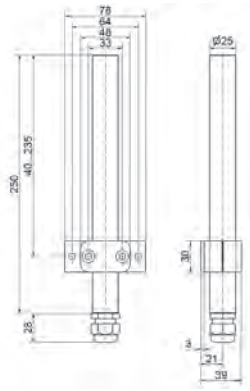
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Overview Accessories for Signal Towers

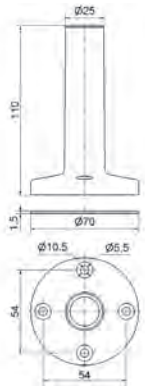
Accessories

	Tube with clamp, Ø 25 mm, 250 mm long, incl. cable gland **Order no. 960 000 18**	KombiSIGN 71, 72, 40 eSIGN RST 56
	Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal **Order no. 975 840 10** Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal **Order no. 960 000 51**	KombiSIGN 71, 72, 40 RST 56
	Tube Ø 25 mm, all anodised aluminium 100 mm long **975 845 10** 250 mm long **975 840 25** 400 mm long **975 840 40** 600 mm long **975 840 60** 800 mm long **975 840 80** 1000 mm long **975 840 03**	KombiSIGN 71, 72, 40 eSIGN RST 56
	Base for tube mounting, Ø 25 mm, plastic, incl. rubber seal **Order no. 975 840 90*** Base for tube mounting, Ø 25 mm, plastic, incl. rubber seal **Order no. 960 000 50**	KombiSIGN 71, 72, 40 *eSIGN RST 56 *IP66/69k (see instructions)
	Base for tube Ø 25 mm, metal, incl. rubber seal, recommended for tube lengths of 400 mm and longer **Order no. 975 840 91**	KombiSIGN 71, 72, 40 eSIGN RST 56
	Cable gland for surface mounting, M16 x 1.5 **Order no. 960 000 04**	KombiSIGN 71, 72, 40
	Tube Ø 25 mm, plastic, 45 mm long, for direct mounting on foldaway base (only for Kombi*SIGN* 71 and 72) **Order no. 960 000 31**	KombiSIGN 71, 72, 40 RST 56
	Foldaway Base - Signal Tower can be folded away, including rubber seal, for tube (all anodised aluminium) Ø 25 mm (not included in assembly) **Order no. 960 000 30** Dimensions (Ø x Height): 70 mm x 117 mm Material: PA-GF Cable diameter: Max. 14 mm Fixing: Vertical, horizontal, Positioning in 7.5° steps	KombiSIGN 71, 72, 40 RST 56
	Foldaway Base - Signal Tower can be folded away, including rubber seal, for tube (all anodised aluminium) Ø 25 mm (not included in assembly) **Order no. 960 009 12** Dimensions (Ø x Height): 70 mm x 85 mm Material: PA-GF Cable diameter: Max. 8 mm Fixing: Vertical, horizontal, Positioning in 0° and 90°	KombiSIGN 71, 72, 40 RST 56

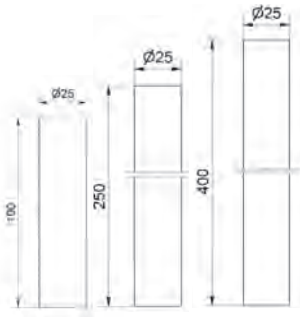
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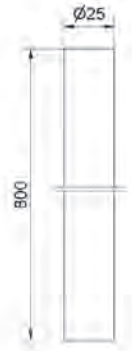
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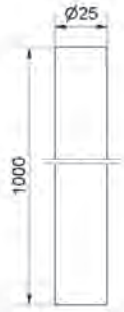
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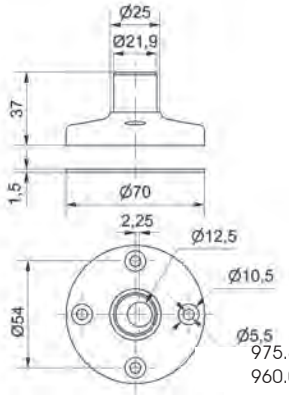
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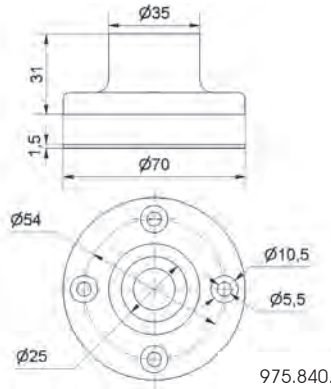
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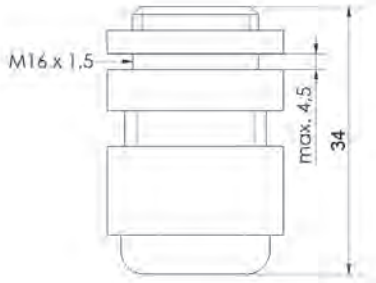
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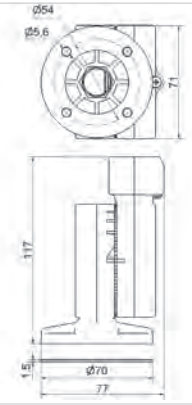
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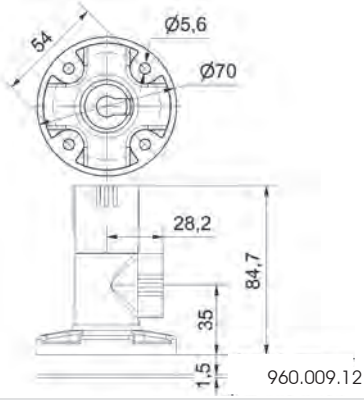
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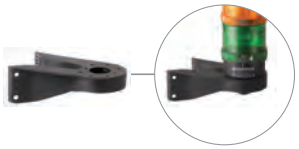
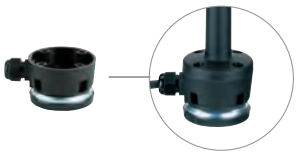


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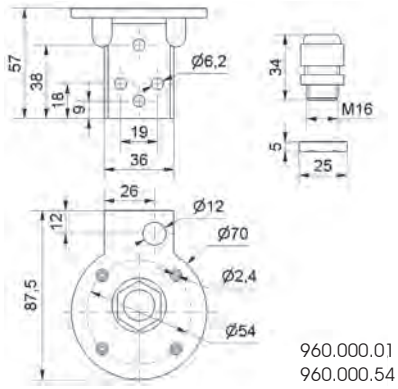


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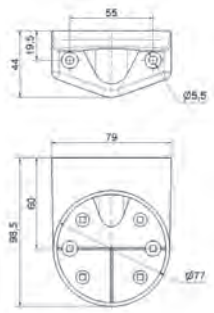
Overview Accessories for Signal Towers

Accessories		Zubehör kompatibel mit
	Bracket for tube mounting, incl. cable gland M16 x 1.5 **Order no. 960 000 01** Bracket for tube mounting, incl. cable gland M16 x 1.5 **Order no. 960 000 54**	KombiSIGN 71, 72, 40 KOMPAKT 37 eSIGN RST 56
	Bracket for base mounting, with concealed cable entry, incl. rubber seals **Order no. 960 000 14** Bracket for base mounting, with concealed cable entry, incl. rubber seals **Order no. 960 000 55**	KombiSIGN 71, 72, 40 KOMPAKT 37 RST 56
	Corner fixing bracket (KOMPAKT 37 with Base-mount tube) **Order no. 960 000 41**	KombiSIGN 71, 72, 40 KOMPAKT 37 eSIGN RST 56
	Contact box for cable exit at side, with mounting material and seal, cable gland M16 x 1.5 **Order no. 975 840 01**	KombiSIGN 71, 72, 40 KOMPAKT 37
	Contact box with magnetic base and cable exit at side cable gland M16 x 1.5 **Order no. 975 840 04**	KombiSIGN 71, 72, 40 KOMPAKT 37
	Bracket for assembly on aluminium profiles incl. cable gland M12 x 1.5 **Order no. 960 630 02** Bracket for assembly on aluminium profiles incl. cable gland M12 x 1.5 **Order no. 960 630 06**	KombiSIGN 40
	Bracket for concealed cable entry **Order no. 960 630 01** Bracket for concealed cable entry **Order no. 960 630 05**	KombiSIGN 40
	Indication board (base/wall mounting) **Order no. 960 630 08** Indication board (tube mounting) **Order no. 960 630 09**	KombiSIGN 40
	USB cable type C to type A 3 m **Order no. 960 000 71**	KombiSIGN 40

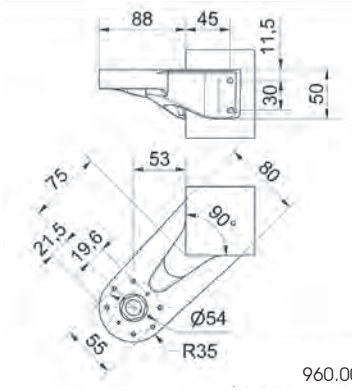
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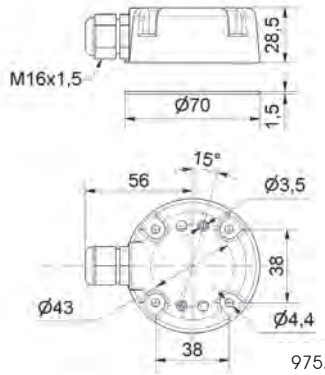
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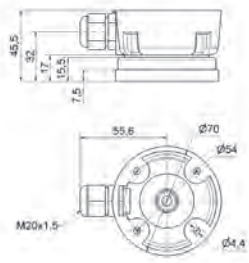
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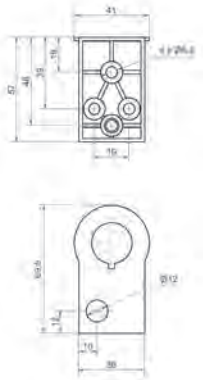
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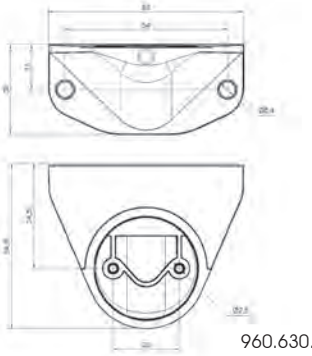
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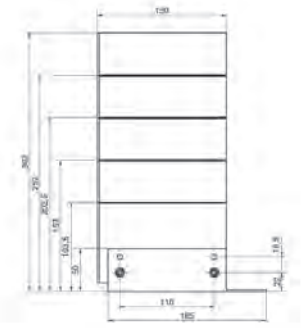
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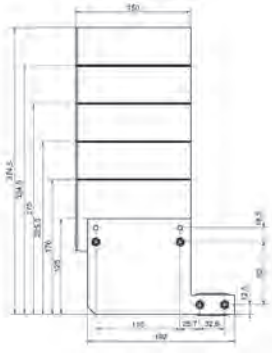
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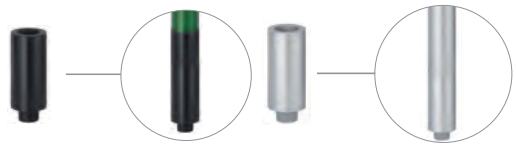
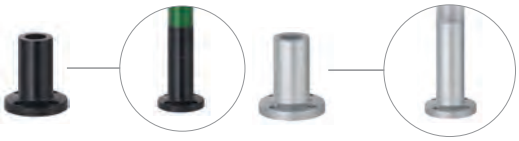
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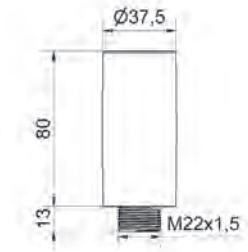
Overview Accessories for Signal Towers

Accessories

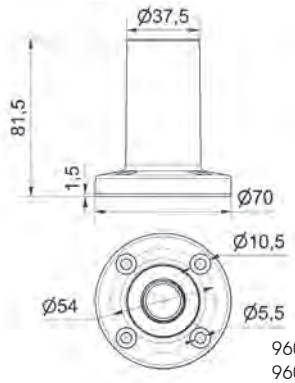
	Extension tube **Order no. 960 698 02** Extension tube **Order no. 960 698 04**	KOMPAKT 37
	Base with integrated tube **Order no. 960 698 01** Base with integrated tube **Order no. 960 698 03**	KOMPAKT 37
	Bracket for base mounting **Order no. 960 698 05**	KOMPAKT 37
	Cable 5 m with M12 connector and plug **Order no. 960 000 46**** Cable 5 m with M12 plug **Order no. 960 000 47**** USB cable type C to type A 0.5 m **Order no. 960 000 69**** USB cable type C to type A 1.8 m **Order no. 960 000 70****	eSIGN
	Bracket for 1-sided mounting **Order no. 960 000 65***	eSIGN
	Base with integrated tube, Ø 25 mm, 110 mm long, plastic, incl. rubber seal **Order no. 960 000 64***	eSIGN

* = UL Type 4X and IP 66/69K (see instructions for exact details)
** = Standard 24 V

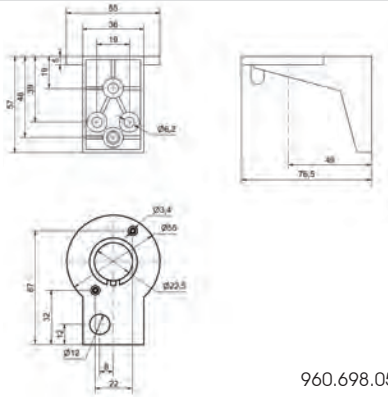
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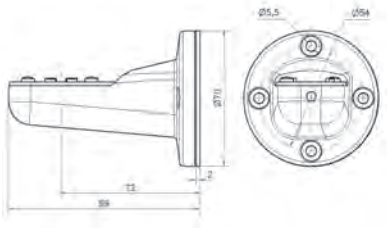
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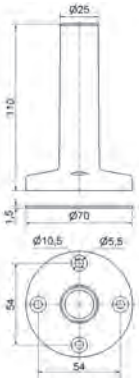
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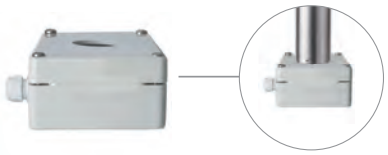
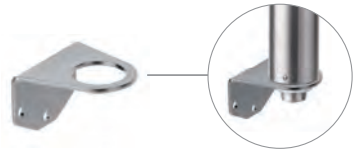
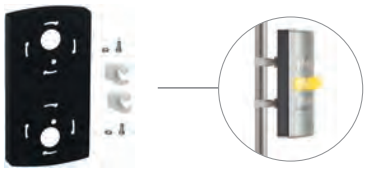
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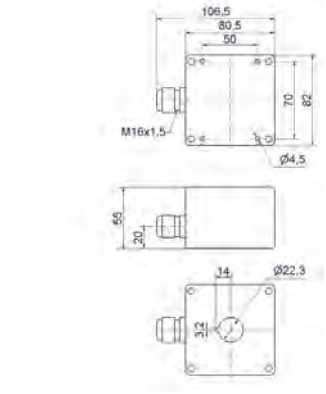
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Overview Accessories for Signal Towers

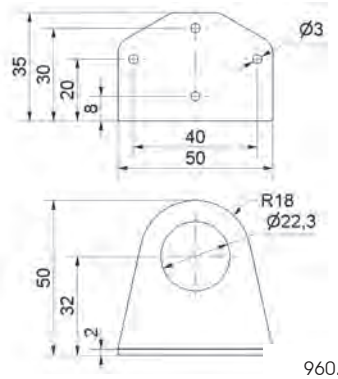
Accessories

	Surface housing single **Order no. 975 109 02**	deSIGN 42
	Bracket, stainless steel (Protection rating IP33) **Order no. 960 694 01**	deSIGN 42
	Fixing kit **Order no. 975 691 01**	FlatSIGN
	Fixing bracket **Order no. 975 883 41**	CO_2-Säule

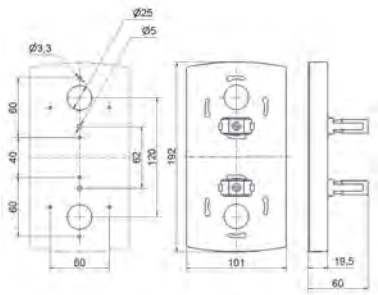
↔ TECHNICAL DIAGRAMS:



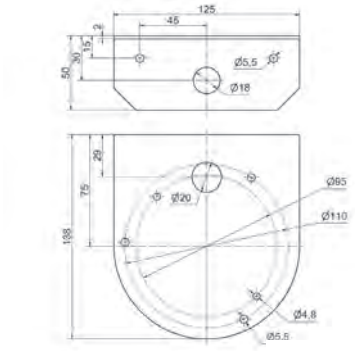
975.109.02



960.694.01



975.691.01



975.883.41





Beacons & Traffic Lights

Overview Beacons & Traffic Lights

WERMA's beacons and traffic lights help you indicate risks and imminent danger promptly and clearly. The urgency of the required action can be indicated by the colour of the light and by the type and duration of the signal.

This allows you to make your processes safe and efficient. Simply safe. Simply better. This is what we call intelligent signal technology.

Overview Signal Beacons & Traffic Lights								
		Installation			**Surface mounting**			
Technical specification	**Variant**	**Micro**	**Frosted**	**Mini**	**Mini**	**Midi**	**Maxi**	**Monitorable Beacon**
		23X	**240, 241, 239 ASi**	**80X, 816, 81X, USB, Evo*SIGNAL***	**Evo*SIGNAL***	**Evo*SIGNAL***	**Evo*SIGNAL***	**806, 829**
Dimensions (Ø x Height)*		See technical specifications						
Voltage	12 V	●		●	●	●	●	
	24 V	●	●	●	●	●	●	●
	48 V							
	115 V	●		●	●	●	●	
	230 V	●		●	●	●	●	
Optical	LED Permanent Light	●	●					●
	LED Blinking Light		●	●				
	LED Permanent Light (multicolour)			●	Tri*COLOUR*	Tri*COLOUR*		
	Twin*LIGHT* (Permanent/Blinking)			●	●	●	●	
	Twin*FLASH* (Flash/EVS)			●	●	●	●	
	LED Flashing Light			●				
	LED EVS Light							
	Permanent Light							●
	LED Rotating					●	●	
	Rotating Mirror/Rotating Light					●	●	
Protection Rating		IP65	IP65	IP65	IP66	IP66	IP66	IP65
Page		Page 99	Page 102	Page 106	Page 112	Page 115	Page 118	Page 121

* Technical diagrams can be found on the product page

Installation beacons

Installation beacons are used for installation in M20/M22 drilled holes. The beacon is fixed from the back, in control panels for example, using a locking nut. This prevents subsequent tampering.

Surface mounted beacons

Surface mounted beacons are fixed directly onto the surface of the relevant object (machines). The basic mounting options are base, bracket or tube installation.



Rotating beacon			Obstruction Lights	Heavy Duty	Traffic Lights		
LED-Rotating Mirror Beacon	**LED-Rotating Beacon Fresnel**	**LED-Rotating**	**Low Intensity Type A and B**				
883, 885	**884**	**Evo*SIGNAL* Midi + Maxi**	**280, 281**	**839**	**Flex*SQUARE*, 890, 895, 897, 894**		
See technical specifications							
		●	●	●	●	●	
●	●	●	●	●	●	●	●
			●		●		
●	●	●		●	●	●	●
●	●	●	●	●	●	●	●
			●	●	●	●	●
		Tri*COLOUR* (Midi)			●	●	
		●					
		●					
					●		
					●		
						●	
	●	●		●			
●	●	●					
IP65	IP65	IP66	IP65 / IP66/68	IP67	IP67	IP65/IP69k	IP65/IP69k
Page 125	Page 127	Page 128 + 129	Page 130	Page 133	Page 136	Page 142	Page 150

Sizes

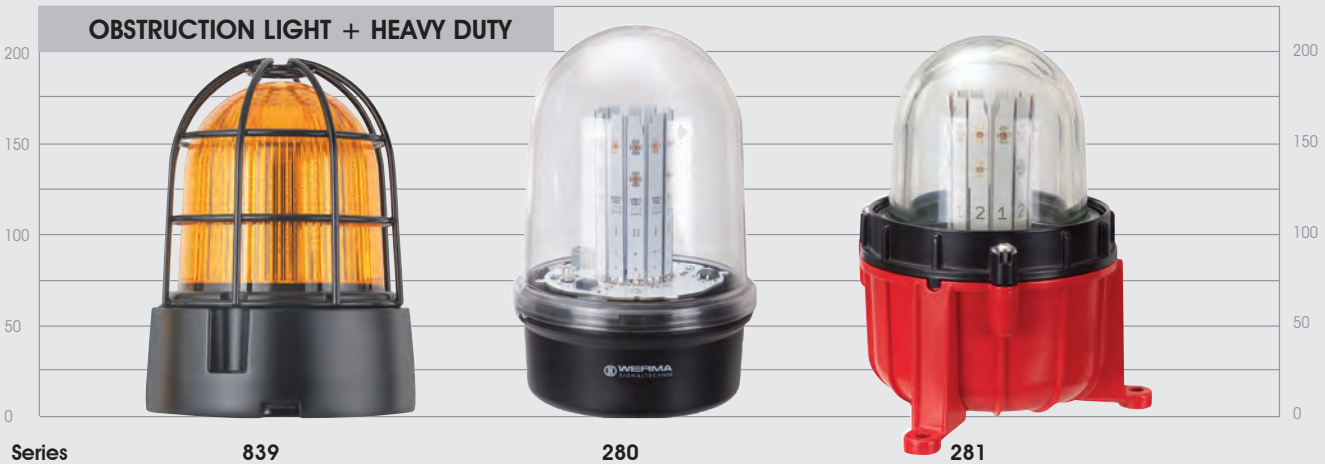
Comparison of WERMA beacons and traffic lights



Series	**230**	**240**	**241**	**Evo*SIGNAL* Mini**
Thread	M20	M30	M22	M22
Ø	29 mm	55 mm	35 mm	62 mm
Height (Protrusion from panel)	32 mm	46 mm	64 mm	85 mm



Series	**Evo*SIGNAL* Mini**	**Evo*SIGNAL* Midi**	**Evo*SIGNAL* Maxi**
Ø	62 mm	85 mm	120 mm
Height	85 mm	130 mm	173 mm



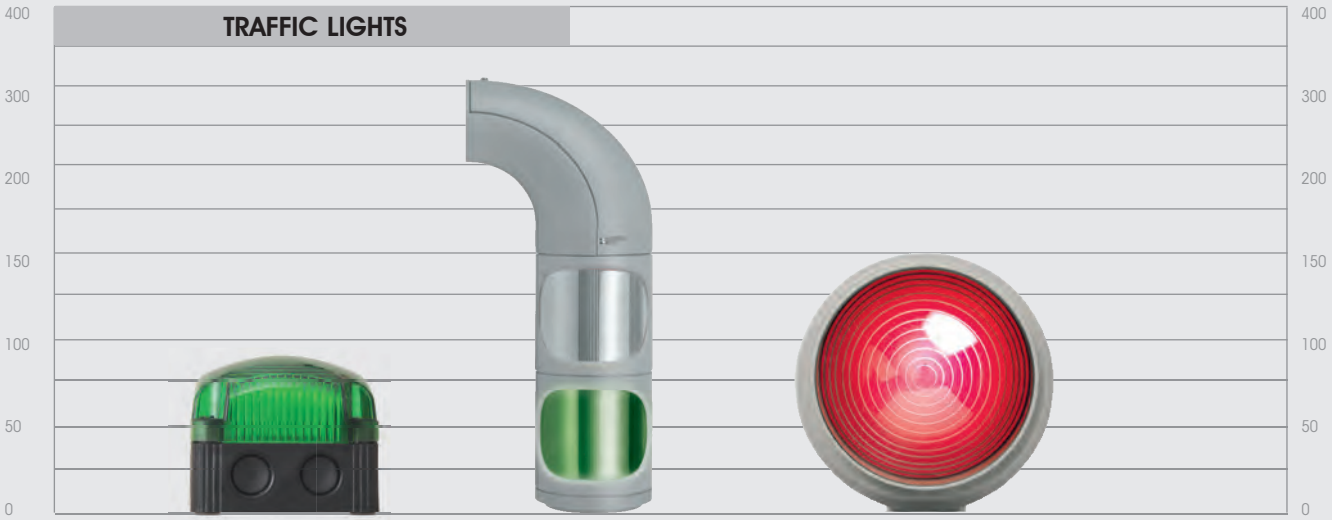
Series	**839**	**280**	**281**
Ø	153 mm	142 mm	165 mm
Height	189 mm	218 mm	205 mm

ROTATING BEACON



Series	**Evo*SIGNAL* Midi**	**Evo*SIGNAL* Maxi**	**883/884**	**885**
Ø	85 mm	120 mm	142 mm	98 mm
Height	130 mm	173 mm	218 mm	151 mm

TRAFFIC LIGHTS



Series	**853**	**894**	**890**
Ø	85 mm	98 mm	150 mm
Height	85 mm	309 mm	154 mm

Micro Installation Beacons - 23x

Your benefits

Despite their size, micro installation beacons from the 230 / 231 / 232 range will provide good all-round visibility. The range includes control panel indicator lights.

- The industry standard for control panels
- Easy to install, even where space is restricted

Typical applications

Signalling faults and statuses

- On small machines and equipment
- In building technology

Installation options

- M22 single-hole mounting including nut
- M20 for direct installation, in safety switches, for example

Features

- Available with a permanent light
- Powerful xenon flash light for increased visibility



Size comparison
Micro/Mini/Evo*SIGNAL* Mini



230 LED Installation Beacon





Mainly sideways illumination

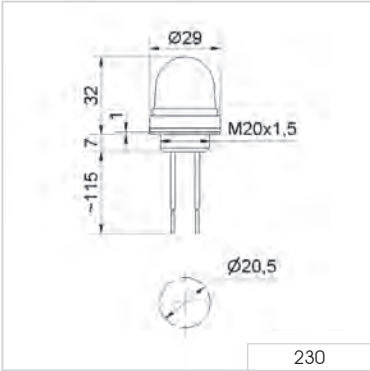


The LED Installation Beacon 230 can for example be used in applications with cable-operated switches or limit switch devices

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	29 mm x 32 mm (Protrusion from panel)			
Housing:	PC/ABS-Blend			
Lens:	PC, transparent			
Connection:	2 wires, c. 115 mm long			
Fixing:	Installation mounting for Ø 20.5 mm (M20 x 1.5 mm)			
Life duration:	Up to 100,000 hrs			
Seal included in assembly.				
Voltage:	12 V DC	24 V DC	115 V AC	230 V AC
Current consumption:	80 mA	45 mA	15 mA	20 mA
red	**230 100 54**	**230 100 55**	**230 100 67**	**230 100 68**
yellow	**230 300 54**	**230 300 55**	**230 300 67**	**230 300 68**
clear	-	**230 400 55**	-	-
Further colours on request.				

↔ TECHNICAL DIAGRAM:



230

24 V

PLC

231 LED Installation Beacon





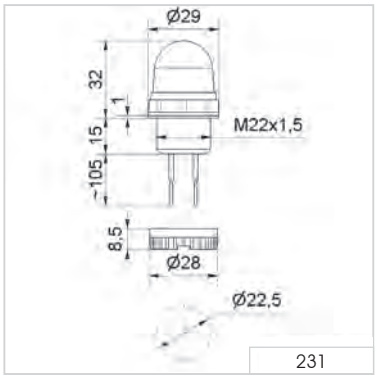


Mainly sideways illumination

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	29 mm x 32 mm (Protrusion from panel)			
Housing:	PC/ABS-Blend			
Lens:	PC, transparent			
Connection:	2 wires, c. 105 mm long			
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)			
Life duration:	Up to 100,000 hrs			
Nut and seal included in assembly.				
Voltage:	12 V DC	24 V DC	115 V AC	230 V AC
Current consumption:	80 mA	45 mA	15 mA	20 mA
red	**231 100 54**	**231 100 55**	**231 100 67**	**231 100 68**
green	**231 200 54**	**231 200 55**	**231 200 67**	**231 200 68**
yellow	**231 300 54**	**231 300 55**	**231 300 67**	**231 300 68**
clear	**231 400 54**	**231 400 55**	**231 400 67**	**231 400 68**
blue	**231 500 54**	**231 500 55**	**231 500 67**	**231 500 68**

↔ TECHNICAL DIAGRAM:



231

24 V

232 Installation Xenon Flashing Beacon

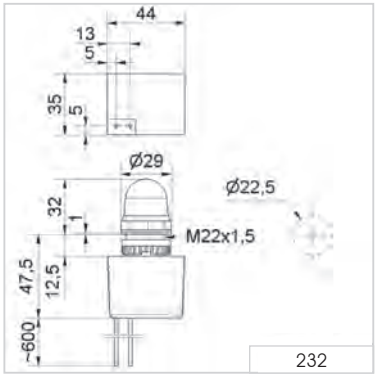




ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	29 mm x 32 mm (Protrusion from panel)	
Housing:	PC/ABS-Blend	
Lens:	PC, transparent	
Connection:	2 wires, c. 600 mm long	
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device	
Flash frequency:	1.5 Hz	
Flash energy:	1 Ws	
Life duration:	4 x 10^6 flashes	
Nut and seal included in assembly.		
Voltage:	24 V DC	230 V AC
Current consumption:	140 mA	20 mA
red	**232 100 55**	**232 100 68**
yellow	**232 300 55**	**232 300 68**

↔ TECHNICAL DIAGRAM:



24 V

Mini Installation Beacons - 239/24x

Your benefits

WERMA's mini installation beacons are perfect for use on machinery and control panels. The colours can be set quite simply by means of binary inputs.

- Up to seven different colours with just one light
- Low lens, where space is restricted
- Raised lens for best visibility also from the side



Typical applications

Signalling faults and statuses

- On control consoles of machinery
- In machine housings
- On control panels

Installation options

- M22 single-hole mounting (239)
- M30 single-hole mounting (240)

Features

- Bit-encoded actuation allows the three basic colours green, yellow and red to be displayed using just two PLC outputs. With a third output, white and blue can also be activated.
- With Spec. V 3.0, the special AS interface version is suitable for addressing (A/B mode) up to 62 modules – without an external power supply (239)

Touch variants (MC55):

- Reporting and acknowledging an alarm when the machine is at a standstill and reporting back when the error is fixed
- Reporting a problem/error using a touch button
- Starting and stopping a machine using a touch button
- Switching a device by pressing and holding or pressing the touch button
- Escalation if an error condition persists for too long

Size comparison
Mini 239/Evo*SIGNAL* Mini



239 LED Installation Beacon (Multicolour) for AS-Interface



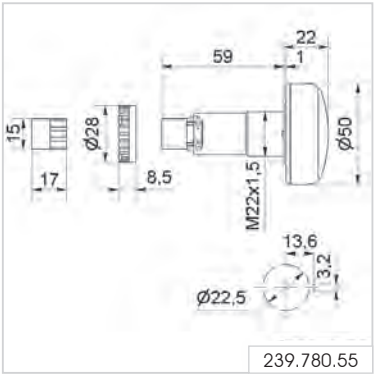


Five colours in one beacon:
red, yellow, green, white and blue

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)
Housing:	PC/ABS-Blend, black
Lens:	PC, transparent
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device
Connection:	Screw terminal with wire protection max. 1.5 mm^2
Power supply AS-Interface:	Via bus conduction
Operating voltage:	25 V ... 31.6 V according to the AS-Interface specification
Current consumption:	≤ 100 mA
Specification:	V 3.0
IO-Code:	8_{HEX}
ID-Code:	A_{HEX}
ID2-Code:	E_{HEX}
Colour options:	Red, yellow, green, white, blue
Life duration:	Up to 50,000 hrs
Nut and seal included in assembly.	
LED Installation Beacon (multicolour) for AS-Interface	**239 780 55**

↔ TECHNICAL DIAGRAM:



239.780.55

Approval No. 2001

240 LED Installation Beacon (Multicolour/MC55) with or without UL





ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

Dimensions (Ø x Height):	55 mm x 46 mm (Protrusion from panel)			
Housing:	PC/ABS-Blend, black PC black (UL version)			
Lens:	PC, transparent			
Fixing:	Installation mounting M30			
Colour options:	Red, yellow, green, white, blue, violet, turquoise (Multicolour) Red, yellow, green (Tricolour)			
Light effects:	Permanent light, permanent and blinking light (1 Hz) (240 110 50)			
Life duration light:	Up to 50,000 hrs			
Life duration buzzer:	Up to 5,000 hrs			
Without UL	Voltage	Current consumption	Plug M12	Cable
Tricolour (RGY)	24 V DC	45 mA	**240 220 55**	**240 210 55**
Multicolour (RGB)	10-30 V DC	60 mA	**240 120 50**	**240 110 50**
With UL				
Tricolour (RGY)	24 V DC	40 mA	**240 420 55**	-
Multicolour (RGB)	10-30 V DC	120 mA	**240 320 50**	-

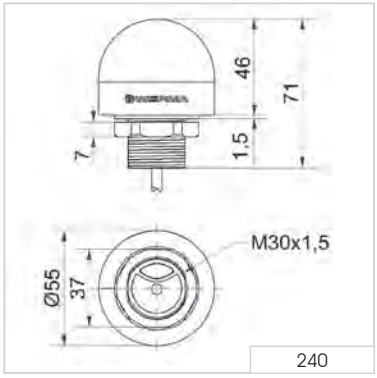
241 LED Installation Beacon (Multicolour/MC35) with UL

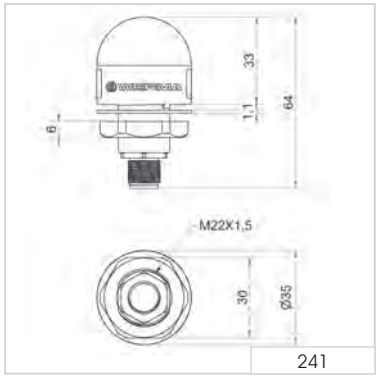


ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

Dimensions (Ø x Height):	35 mm x 64 mm (Protrusion from panel)		
Housing:	PC/ABS-Blend, black		
Lens:	PC, transparent		
Fixing:	Installation mounting M22		
Colour options:	Red, yellow, green, white, blue, violet, turquoise (Multicolour) Red, yellow, green (Tricolour)		
Light effects:	Permanent light		
Life duration light:	Up to 50,000 hrs		
Life duration buzzer:	Up to 5,000 hrs		
	Voltage	Current consumption	Plug M12
Tricolour (RGY)	24 V DC	20 mA	**241 420 55**
Multicolour (RGB)	10-30 V DC	30 mA	**241 320 50**

↔ TECHNICAL DIAGRAM





240.420.55
240.320.50
241.420.55
241.320.50 241 240.220.55
240.420.55 240.320.50 240.120.50 240.210.55 240.110.50 UL

240 LED Installation Beacon (Multicolour/MC55 Touch)





ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

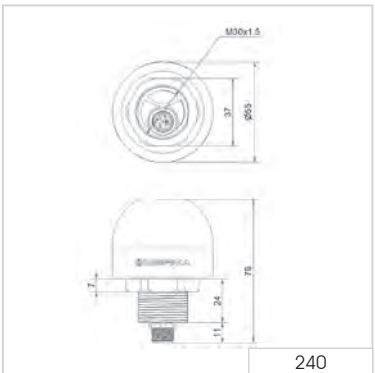
Dimensions (Ø x Height):	55 mm x 44 mm (Protrusion from panel)			
Housing:	PC, black			
Lens:	PC, transparent			
Fixing:	Installation mounting M30			
Connection:	M12 5 PIN			
Colour options:	Red, yellow, green (Tricolour)			
Light effects:	Permanent light			
Life duration light:	Up to 50,000 hrs			
Life duration buzzer:	Up to 5,000 hrs			
	Voltage	Current consumption	NPN	PNP
Tricolour (RGY)	24 V DC	50 mA	**240 260 55**	**240 280 55**

240 LED Installation Beacon (Multicolour/MC55 Touch Smart)

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

Dimensions (Ø x Height):	55 mm x 44 mm (Protrusion from panel)		
Housing:	PC, black		
Lens:	PC, transparent		
Fixing:	Installation mounting M30		
Connection:	M12 5 PIN		
Colour options:	Red, yellow, green, white, blue, violet, turquoise (Multicolour)		
Light effects:	Permanent, Blinking, Flashing and Pulse light		
Life duration light:	Up to 50,000 hrs		
Life duration buzzer:	Up to 5,000 hrs		
	Voltage	Current consumption	M12 connector
Multicolour (RGY)	24 V DC	600 mA	**240 160 55**

↔ TECHNICAL DIAGRAM



240

Mini Beacons - 800/801/816 families + Evo*SIGNAL*

Your benefits

The Mini Signal Beacons are used wherever space is restricted.

The beacons are easy to install and connect, even in tight spaces, thanks to convenient connection terminals and easily accessible mounting holes.

- Reliable signalling at close quarters
- Available as a permanent light or as a bright Xenon flash light to attract attention
- Robust and tamper-proof



Typical applications

Signalling of faults

- On small machines and equipment
- In building technology

Installation options

- Base mounting
- M22/PG29 single-hole mounting
- Bracket mounting
- Tube mounting

Features

- High protection rating IP65 for both indoor and outdoor use

The 816 :

- Robust and shock-resistant up to 20 joules

Size comparison Mini 239/Mini



260 LED Installation Beacon Evo*SIGNAL* Mini





ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	62 mm x 85 mm		
Housing:	PC-ABS, grey, high impact		
Lens:	PC, transparent		
Fixing:	Installation mounting		
Cable entry:	Cable diameter 8-12 mm		
Connection:	Push-In terminal max.1.5 mm²		
Flash/Blink frequency:	1 Hz		
Twin*LIGHT* (Permanent/Blinking)			
Voltage:	12 V AC/DC	24 V AC/DC	115-230 V AC
Current consumption:	≤ 90 mA	≤ 75 mA	≤ 45 mA
red	**260 110 74**	**260 110 75**	**260 110 60**
green	**260 210 74**	**260 210 75**	**260 210 60**
yellow	**260 310 74**	**260 310 75**	**260 310 60**
white	**260 410 74**	**260 410 75**	**260 410 60**
blue	**260 510 74**	**260 510 75**	**260 510 60**
Twin*FLASH* (Flash/EVS)			
Voltage:	12 V AC/DC	24 V AC/DC	115-230 V AC
Current consumption:	≤ 70 mA	≤ 75 mA	≤ 45 mA
red	**260 120 74**	**260 120 75**	**260 120 60**
green	**260 220 74**	**260 220 75**	**260 220 60**
yellow	**260 320 74**	**260 320 75**	**260 320 60**
white	**260 420 74**	**260 420 75**	**260 420 60**
blue	**260 520 74**	**260 520 75**	**260 520 60**
Tri*COLOUR*			
Voltage:		24 V AC/DC	
Current consumption:		≤ 90 mA	
Order no.		**260 430 75**	

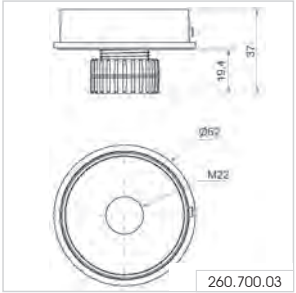
🛠 ACCESSORIES:

Installation mounting M22	**260 700 03**
Installation mounting PG 29	**260 700 04**

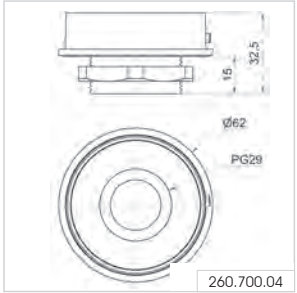
↔ TECHNICAL DIAGRAM:



260



260.700.03



260.700.04

260 | 260.700.03 | 260.700.04

71 g | 21 g | 28 g | IP66 | +60°C | -30°C

800 Installation Permanent Beacon - PG29 (Ø 37 mm)





Bulb change via rear access with bayonet holder



Accessories

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	57 mm x 54 mm (Protrusion from panel)
Housing:	PC/ABS-Blend Socket: PA-GF, high impact
Lens:	PC, transparent
Connection:	Screw terminal 0.5 -1.5 mm²
Fixing:	Installation mounting for Ø 37 mm (PG29)
Operating voltage:	12-230 V
Bulb socket:	BA15d, 5 Watt max.
Bulb change:	Via rear access with bayonet mechanism
Bulb not included in assembly.	
Voltage:	12-230 V
red	**800 100 00**
green	**800 200 00**
yellow	**800 300 00**
white	**800 400 00**
blue	**800 500 00**

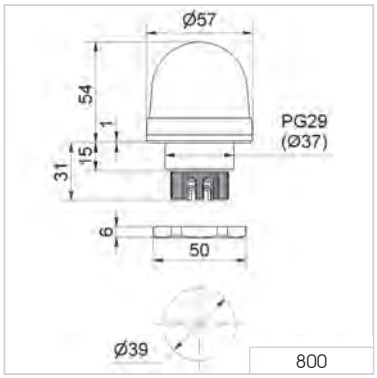
🛠 ACCESSORIES:

Bulb BA15d, 5 W total length 42 mm

Voltage:	12 V AC/DC	24 V AC/DC	30 V AC/DC	115 V AC/DC	230 V AC/DC
	955 840 34	**955 840 35**	**955 840 32**	**955 840 57**	**955 840 38**

Tube adaptor	**975 812 01**
Base with integrated tube, Ø 25 mm, 110 mm long, plastic	**975 840 10**
Base for tube mounting	**975 840 90**
Base for base mounting	**975 812 02**
Tube Ø 25 mm, all anodised aluminium	
100 mm long	**975 845 10**
250 mm long	**975 840 25**
400 mm long	**975 840 40**
Anti-twist device	**975 815 22**
Surface housing IP 65	
for 1 Installation Beacon	**975 815 03**
for 2 Installation Beacons	**975 815 07**
for 3 Installation Beacons	**975 815 08**
for 4 Installation Beacons	**975 109 05**

↔ TECHNICAL DIAGRAM:



801 LED Installation Permanent Beacon - PG29 (Ø 37 mm)





Tube adaptor as accessory



Accessories

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

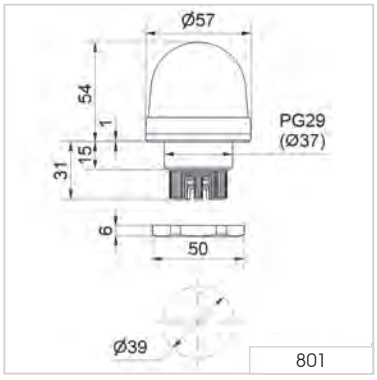
Dimensions (Ø x Height):	57 mm x 54 mm (Protrusion from panel)		
Housing:	PC/ABS-Blend Socket: PA-GF, high impact		
Lens:	PC, transparent		
Fixing:	Installation mounting for Ø 37 mm (PG29)		
Connection:	Screw terminal 0.5 - 1.5 mm^2		
Life duration:	Up to 100,000 hrs		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	45 mA	25 mA	25 mA
red	**801 100 75**	**801 100 67**	**801 100 68**
green	**801 200 75**	**801 200 67**	**801 200 68**
yellow	**801 300 75**	**801 300 67**	**801 300 68**

Further colours and voltages on request.

🛠 ACCESSORIES:

Tube adaptor	**975 812 01**
Base with integrated tube, Ø 25 mm, 110 mm long, plastic	**975 840 10**
Base for tube mounting	**975 840 90**
Base for base mounting	**975 812 02**
Tube Ø 25 mm, all anodised aluminium	
100 mm long	**975 845 10**
250 mm long	**975 840 25**
400 mm long	**975 840 40**
Anti-twist device	**975 815 22**
Surface housing IP 65	
for 1 Installation Beacon	**975 815 03**
for 2 Installation Beacons	**975 815 07**
for 3 Installation Beacons	**975 815 08**
for 4 Installation Beacons	**975 109 05**

↔ TECHNICAL DIAGRAM:

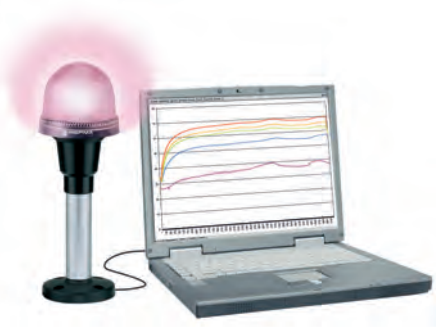


24 V

PLC

816 LED Beacon (Multicolour) with USB Interface - PG29 (Ø 37 mm)





Simple triggering as no special software is required

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	75 mm x 66 mm (Protrusion from panel)
Housing:	ABS/PC-Blend, black
Lens:	PC, transparent Shock resistance 20 Joules according to EN 60079-0
Fixing:	Installation mounting for Ø 37 mm (PG29) Base and wall mounting possible (accessories)
Connection:	Mini USB 2.0 downward cable outlet
Power supply:	Via USB
Colour options:	More than 200,000 colours (RGB LED)
Suitable for:	Windows®, System requirements – see Handbook
Assembly:	LED beacon, demo software, driver and USB connection cable included, 1.8 m long
Life duration:	Up to 50,000 hrs
Voltage:	5 V (USB-Connection)
Current consumption:	≤ 500 mA
clear lens	**816 480 53**

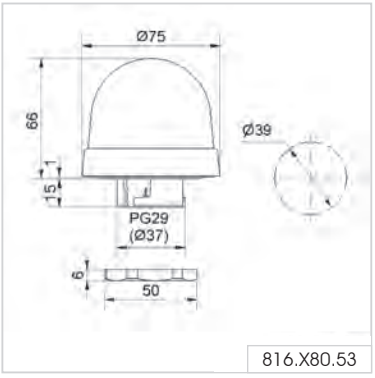
🛠 ACCESSORIES:

You will find the appropriate accessories for base or tube mounting on page 104 or under wwww.werma.com

! ADDITIONAL INFORMATION:

The installation LED Beacon with USB interface is compatible with USB 2.0 and 1.1.
A wide range of colours and light effects can be quickly and simply programmed by the customer and altered at any time.

↔ TECHNICAL DIAGRAM:



816.X80.53

Evo*SIGNAL* - LED Signal Beacon Mini, Midi, Maxi

Your benefits

The type of optical signals used depends on the application and the surroundings. With Evo*SIGNAL*, finding the right signal device has never been so easy: Almost all areas of application are optimally covered by only three sizes (signal lamps) with specific mounting adapters. The new modular, simple and clear standard solution. Evo*SIGNAL* is one of a kind.

- Simple and easy to use: Number of different articles reduced to 20% whilst retaining a full range
- Twin functions: Twin*LIGHT* and Twin*FLASH* unite two light pattern functions in one element. They can be remote-controlled via connection terminals and also used as escalation levels
- Poka Yoke: Simple and intuitive installation - incorrect installation is impossible
- Mini and Midi also available as Tri*COLOUR* variants
- Maxi Twin*FLASH* can be used as an attention-grabbing alternative to xenon strobes and rotating mirror beacons

Typical applications

Signal faults and statuses on machines and equipment, in building services engineering and in door and gate applications. All products are ideal for demanding indoor and outdoor applications.

- Mini – on installations with limited space
- Midi – signalling over medium distances (10–30 m)
- Maxi – signalling over long distances (> 20 m)

Installation options

- Base mounting
- M22/PG29 single-hole mounting
- Tube mounting
- Bracket mounting

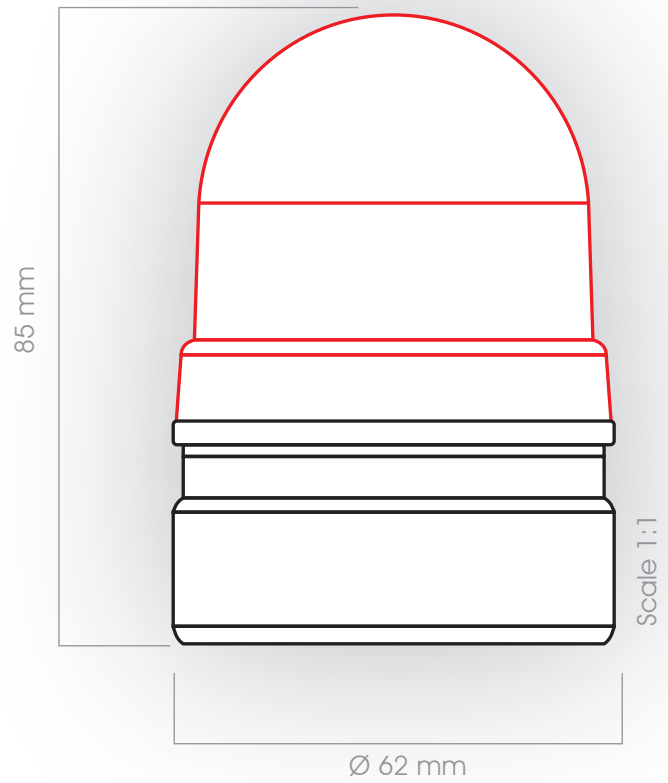
Features

- Push-in connection terminals: Simple and permanently secure connection
- Fully compatible: Easy replacement of previous products
- Best-in-class equipment: Powerful, extremely robust (IP66), tamper-proof



Mini Midi Maxi

Evo*SIGNAL* **Mini** - LED Signal Beacon





31
Twin*LIGHT*, Twin*FLASH*,
Tri*COLOUR*



6
Mounting adapter

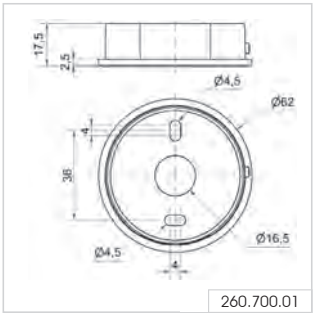
Quick Finder Evo*SIGNAL* **Mini** - LED Signal Beacon



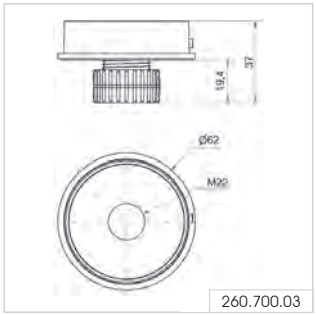
12 V AC/DC		24 V AC/DC		115-230 V AC	
Twin*LIGHT*	Twin*FLASH*	Twin*LIGHT*	Twin*FLASH*	Twin*LIGHT*	Twin*FLASH*
Order no.	Order no.	Order no.	Order no.	Order no.	Order no.
260 110 74	260 120 74	260 110 75	260 120 75	260 110 60	260 120 60
260 210 74	260 220 74	260 210 75	260 220 75	260 210 60	260 220 60
260 310 74	260 320 74	260 310 75	260 320 75	260 310 60	260 320 60
260 410 74	260 420 74	260 410 75	260 420 75	260 410 60	260 420 60
260 510 74	260 520 74	260 510 75	260 520 75	260 510 60	260 520 60
		Tri*COLOUR* 260 430 75			

+ Mounting adapter (compulsory!)

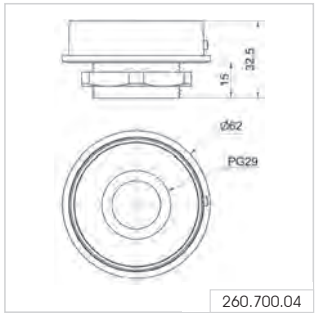
Base mounting	Installation mounting M22	Installation mounting PG 29	Tube mounting	Bracket mounting with cable gland	Bracket mounting
Order no. 260 700 01	Order no. 260 700 03	Order no. 260 700 04	Order no. 260 700 05	Order no. 260 700 06	Order no. 260 700 07



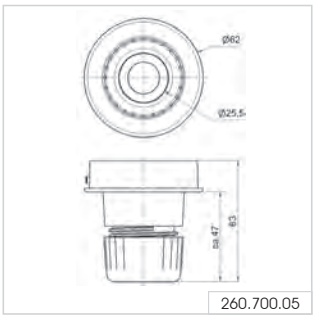
260.700.01



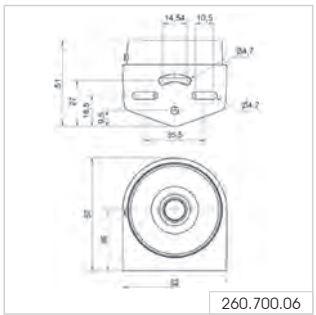
260.700.03



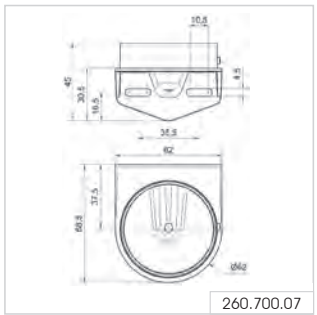
260.700.04



260.700.05



260.700.06



260.700.07

Evo*SIGNAL* **Mini** - LED Signal Beacon



Tube mounting



Bracket mounting with cable gland

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	62 mm x 85 mm		
Housing:	PC-ABS, grey, high impact		
Lens:	PC, transparent		
Fixing:	Base/Installation/Tube/Wall mounting		
Cable entry:	Cable diameter 8-12 mm		
Connection:	Push-In terminal max.1.5 mm²		
Flash/Blink frequency:	1 Hz		
Twin*LIGHT* (Permanent/Blinking)			
Voltage:	12 V AC/DC	24 V AC/DC	115-230 V AC
Current consumption:	≤ 90 mA	≤ 75 mA	≤ 45 mA
red	**260 110 74**	**260 110 75**	**260 110 60**
green	**260 210 74**	**260 210 75**	**260 210 60**
yellow	**260 310 74**	**260 310 75**	**260 310 60**
white	**260 410 74**	**260 410 75**	**260 410 60**
blue	**260 510 74**	**260 510 75**	**260 510 60**
Twin*FLASH* (Flash/EVS)			
Voltage:	12 V AC/DC	24 V AC/DC	115-230 V AC
Current consumption:	≤ 70 mA	≤ 75 mA	≤ 45 mA
red	**260 120 74**	**260 120 75**	**260 120 60**
green	**260 220 74**	**260 220 75**	**260 220 60**
yellow	**260 320 74**	**260 320 75**	**260 320 60**
white	**260 420 74**	**260 420 75**	**260 420 60**
blue	**260 520 74**	**260 520 75**	**260 520 60**
Tri*COLOUR*			
Voltage:		24 V AC/DC	
Current consumption:		≤ 90 mA	
Order no.		**260 430 75**	

🛠 ACCESSORIES (COMPULSORY!):

Base mounting	**260 700 01**
Installation mounting M22	**260 700 03**
Installation mounting PG 29	**260 700 04**
Tube mounting	**260 700 05**
Bracket mounting with cable gland	**260 700 06**
Bracket mounting	**260 700 07**

↔ TECHNICAL DIAGRAM:



260

71 g

260.700.01 13 g

260.700.03 21 g

260.700.04 28 g

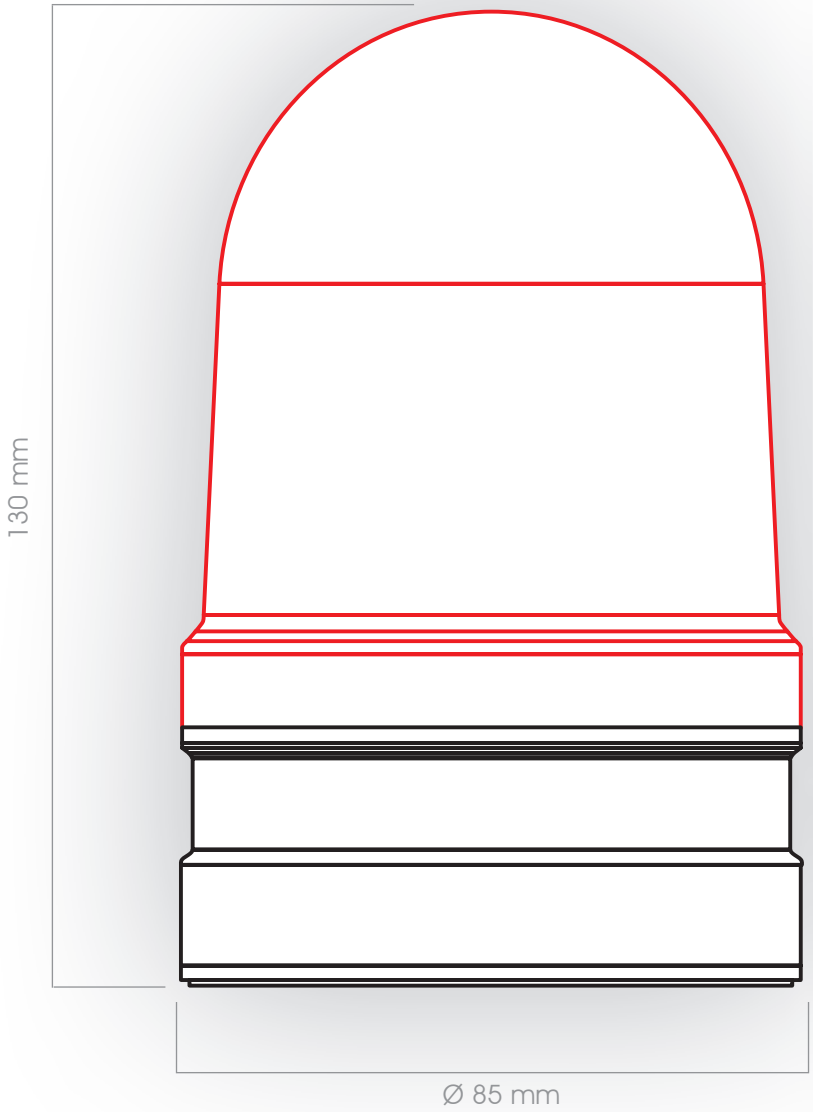
260.700.05 260.700.06 35 g

260.700.07 26 g

IP66

+60°C -30°C

Evo*SIGNAL* **Midi** - LED Signal Beacon



32
Twin*LIGHT*, Twin*FLASH*,
Tri*COLOUR*, Rotating Light

6
Mounting adapter

Evo*SIGNAL* **Midi** - LED Signal Beacon



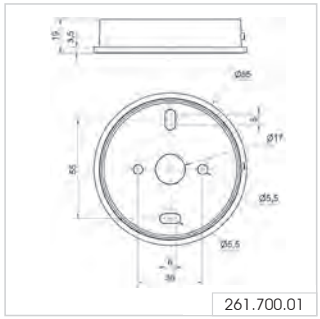
12/24 V AC/DC		
Twin*LIGHT*	**Twin*FLASH***	**Rotating**
Order no.	Order no.	Order no.
261 110 70	261 120 70	261 140 70
261 210 70	261 220 70	261 240 70
261 310 70	261 320 70	261 340 70
261 410 70	261 420 70	261 440 70
261 510 70	261 520 70	261 540 70
Tri*COLOUR*		
261 430 70		

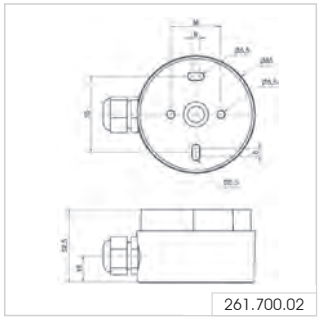
115-230 V AC		
Twin*LIGHT*	**Twin*FLASH***	**Rotating**
Order no.	Order no.	Order no.
261 110 60	261 120 60	261 140 60
261 210 60	261 220 60	261 240 60
261 310 60	261 320 60	261 340 60
261 410 60	261 420 60	261 440 60
261 510 60	261 520 60	261 540 60
Tri*COLOUR*		
261 430 60		

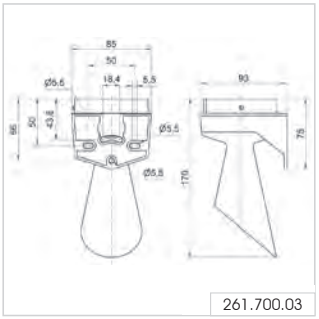
+ Mounting adapter (compulsory!)

Base mounting	Base mounting with cable gland	Tube mounting	Bracket mounting with cable gland	Bracket mounting	Horn
Order no. 261 700 01	Order no. 261 700 02	Order no. 261 700 05	Order no. 261 700 06	Order no. 261 700 07	Order no. 261 700 03

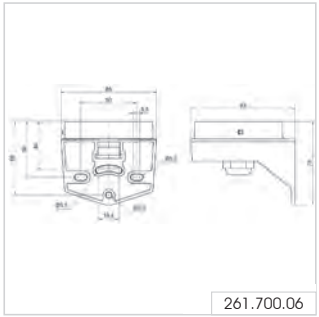

261

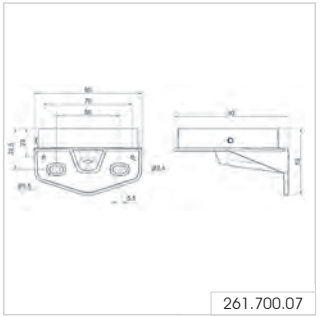

261.700.01


261.700.02


261.700.03


261.700.05


261.700.06


261.700.07

Evo*SIGNAL* **Midi** - LED Signal Beacon



Bracket mounting



Tube mounting

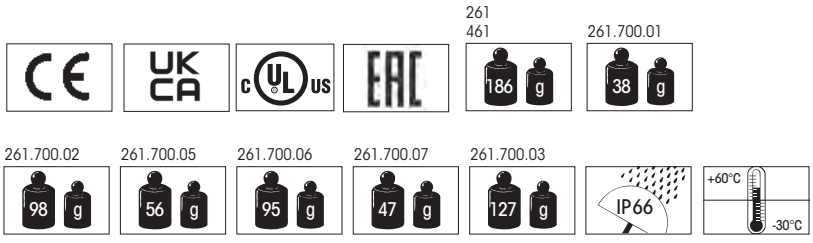
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	85 mm x 130 mm	
Housing:	PC/ABS, grey, high impact	
Lens:	PC, transparent	
Fixing:	Base/Tube/Wall mounting	
Cable entry:	Cable Diameter 8-12 mm	
Connection:	Push-In terminal max. 1.5 mm²	
Twin*LIGHT*		
Blinking/Flash frequency:	1 Hz	
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 185 mA	≤ 65 mA
red	**261 110 70**	**261 110 60**
green	**261 210 70**	**261 210 60**
yellow	**261 310 70**	**261 310 60**
white	**261 410 70**	**261 410 60**
blue	**261 510 70**	**261 510 60**
Twin*FLASH*		
Blinking/Flash frequency:	1 Hz	
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 850 mA	≤ 110 mA
red	**261 120 70**	**261 120 60**
green	**261 220 70**	**261 220 60**
yellow	**261 320 70**	**261 320 60**
white	**261 420 70**	**261 420 60**
blue	**261 520 70**	**261 520 60**
Rotation		
Rotation rate:	180 r.p.m.	
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 130 mA	≤ 110 mA
red	**261 140 70**	**261 140 60**
green	**261 240 70**	**261 240 60**
yellow	**261 340 70**	**261 340 60**
white	**261 440 70**	**261 440 60**
blue	**261 540 70**	**261 540 60**
Tri*COLOUR*		
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 145 mA	≤ 50 mA
clear	**261 430 70**	**261 430 60**

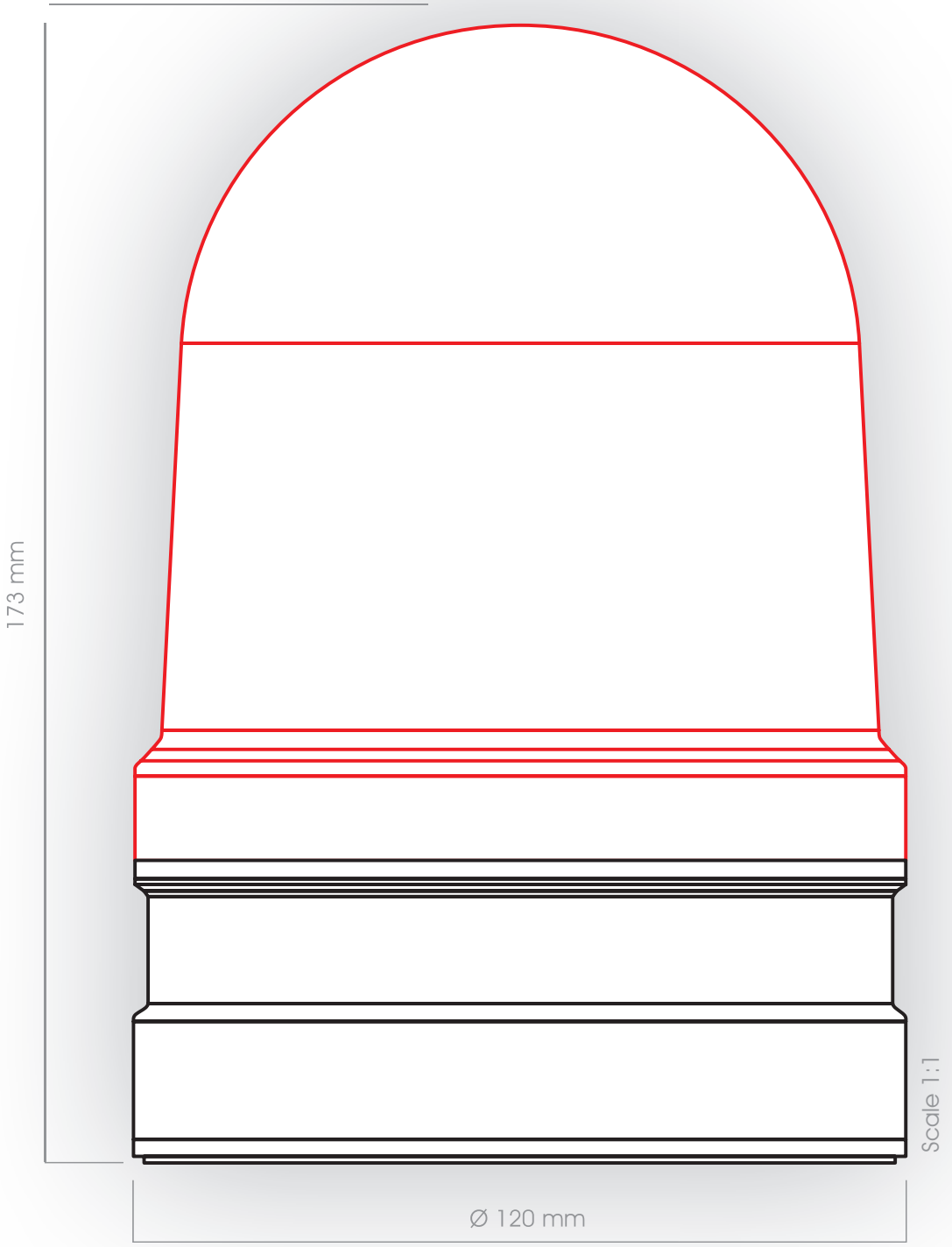
🛠 ACCESSORIES:

Base mounting	**261 700 01**
Base mounting with cable gland	**261 700 02**
Tube mounting	**261 700 05**
Bracket mounting with cable gland	**261 700 06**
Bracket mounting	**261 700 07**
Horn	**261 700 03**

↔ TECHNICAL DIAGRAM:



Evo*SIGNAL* **Maxi** - LED Signal Beacon



30
Twin*LIGHT*, Twin*FLASH*,
Rotating Light

4
Mounting adapter

Quick-Finder Evo*SIGNAL* **Maxi** - LED Signal Beacon



	12/24 V AC/DC			115-230 V AC		
	Twin*LIGHT*	**Twin*FLASH***	**Rotating**	**Twin*LIGHT***	**Twin*FLASH***	**Rotating**
	Order no.	Order no.	Order no.	Order no.	Order no.	Order no.
	262 110 70	262 120 70	262 140 70	262 110 60	262 120 60	262 140 60
	262 210 70	262 220 70	262 240 70	262 210 60	262 220 60	262 240 60
	262 310 70	262 320 70	262 340 70	262 310 60	262 320 60	262 340 60
	262 410 70	262 420 70	262 440 70	262 410 60	262 420 60	262 440 60
	262 510 70	262 520 70	262 540 70	262 510 60	262 520 60	262 540 60

+ Mounting adapter (compulsory!)

Base mounting



Order no.
262 700 01

Base mounting with cable exit at side



Order no.
262 700 02

Bracket mounting with cable gland

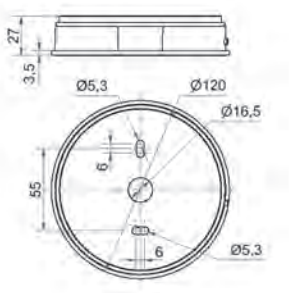


Order no.
262 700 06

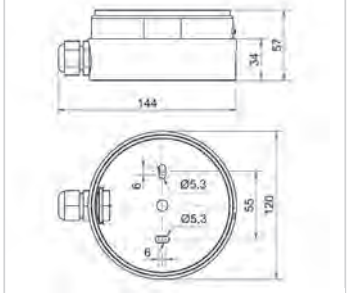
Bracket mounting with concealed cable entry



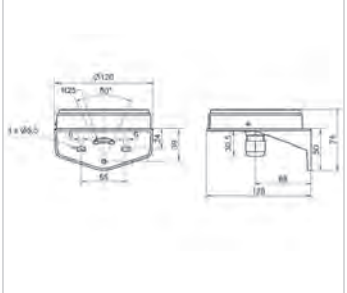
Order no.
262 700 07



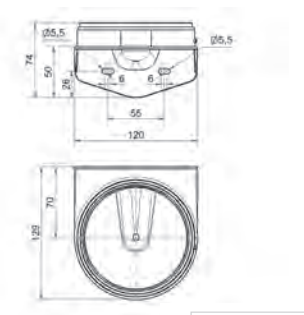
262.700.01



262.700.02



262.700.06



262.700.07

Evo*SIGNAL* **Maxi** - LED Signal Beacon



Bracket mounting with cable gland



Base mounting with cable exit at side

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	120 mm x 173 mm	
Housing:	PC/ABS	
Lens:	PC, transparent	
Fixing:	Base/Wall/Tube mounting	
Cable entry:	Cable Diameter 8-12 mm	
Connection:	Push-In terminal max. 1.5 mm²	
Rotation rate:	180 r.p.m.	
Flash/Blinking frequency:	1 Hz	
Twin*LIGHT*		
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 700 mA	≤ 165 mA
red	**262 110 70**	**262 110 60**
green	**262 210 70**	**262 210 60**
yellow	**262 310 70**	**262 310 60**
white	**262 410 70**	**262 410 60**
blue	**262 510 70**	**262 510 60**
Twin*FLASH*		
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 760 mA	≤ 165 mA
red	**262 120 70**	**262 120 60**
green	**262 220 70**	**262 220 60**
yellow	**262 320 70**	**262 320 60**
white	**262 420 70**	**262 420 60**
blue	**262 520 70**	**262 520 60**
Rotating		
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 550 mA	≤ 170 mA
red	**262 140 70**	**262 140 60**
green	**262 240 70**	**262 240 60**
yellow	**262 340 70**	**262 340 60**
white	**262 440 70**	**262 440 60**
blue	**262 540 70**	**262 540 60**

🛠 ACCESSORIES:

Base mounting	**262 700 01**
Base mounting with cable exit at side	**262 700 02**
Bracket mounting with cable gland	**262 700 06**
Bracket mounting with concealed cable entry	**262 700 07**

↔ TECHNICAL DIAGRAM:



262

262	262.700.01	262.700.02	262.700.06	262.700.07
348 g	90 g	179 g	114 g	120 g

IP66 | +60°C | -30°C

Monitored / Monitorable Beacons for safety applications – 806 / 829 families

Your benefits

For applications where safety is an issue, we recommend WERMA's monitored beacons. These beacons are certified by the TÜV Technical Inspection Agency and can be integrated into the safety assessment of your machinery/plant equipment in accordance with EN 13849-1 and EN 62061.



806 monitorable LED beacons:

- TÜV certified LED light that enables current monitoring

829 monitored LED beacons:

- Built-in monitoring electronics with two potential-free outputs; the light thus achieves PL e as per EN 13849-1 and safety category 4
- Approval confirmed by TÜV certificate
- Maintenance-free LED technology

826 monitored beacons:

- Built-in monitoring electronics with two potential-free outputs; the light thus achieves PL e as per EN 13849-1 and safety category 4
- Approval confirmed with a TÜV certificate

Typical applications

Signalling of faults in applications where safety is an issue

- on machinery and plant equipment
- in building service industry

Installation options

- Base mounting
- Bracket mounting with accessories
- Wire guard accessory to protect against mechanical damage

Features

- Further safety-related products are available on request

Size comparison 806 / 826+829 / Evo*SIGNAL* Maxi



806 Monitorable LED Permanent Beacon



Bracket (accessory)





Accessories

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	70 mm x 97 mm
Housing:	Terminal element: PA-GF, high impact Cap: PC
Lens:	PC, transparent
Fixing:	Base mounting, Bracket mounting
Cable entry:	Cable diameter max. 14 mm
Connection:	CAGE CLAMP® technology max. 2.5 mm^2
Duty cycle:	100 %
Current consumption following failure of 3 of the 6 strips:	< 5 mA
Life duration:	Up to 100,000 hrs
Voltage:	24 V DC
Current consumption:	60 mA
yellow	**806 350 55**
clear	**806 450 55**

🛠 ACCESSORIES:

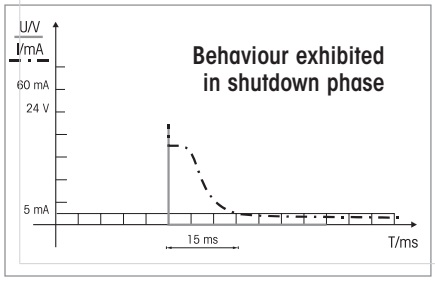
Bracket, including cable gland	**960 000 02**
Bracket for 1-sided mounting	**975 840 85**

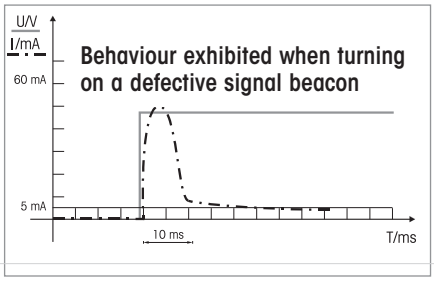
! ADDITIONAL INFORMATION:

What does Muting mean?

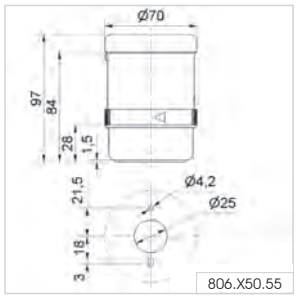
Muting is the temporary automatic overriding of a safety protection device by means of a control system within the normal operating cycle of a machine. This bridging of the safety protection must be visually displayed in order to prevent staff mistakenly entering a dangerous area.

It is therefore necessary that the signal beacon in such applications can be triggered by failsafe technology and the bulb function can be monitored.
The standard colour for muting signalisation is clear; yellow is however also permitted.





↔ TECHNICAL DIAGRAM:



829 Monitored LED Permanent Beacon

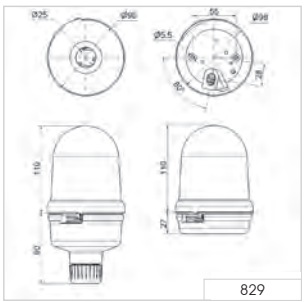




Monitored Permanent Beacon with long life, maintenance-free LED technology



Bracket (accessory)



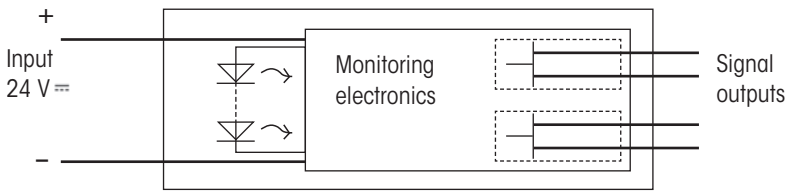
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	98 mm x 137 mm
Housing:	PC/ABS-Blend
Lens:	PC, transparent
Fixing:	Base, bracket and tube mounting. Base 975 840 90 must be ordered twice for tube mounting - once as socket for beacon and once as base
Cable entry:	Cable diameter 5-7 mm
Connection:	Screw terminal with wire protection 0.5-1.5 mm^2
Installation position:	Vertical
Cable outlet:	Downwards
Duty cycle:	100 %
Rated voltage:	24 V DC
Input power 24 V DC:	c. 3.5 W
Output current capability:	30 V DC / 100 mA
On state resistance of an output:	Max. 25 Ω
Atmospheric humidity:	≤ 95 % without moisture condensation
Response time, normal operation and with LED failure:	1 ms to 5 ms
in fault cases with safety release:	< 1 s (with short-circuit current ≥ 1 A)
Certification:	EN ISO 13849-1:2008 category 4, Peformance Level "e" EN ISO 13849-2:2008 validation
Life duration:	Up to 50,000 hrs
Voltage:	24 V DC
Current consumption:	≤ 150 mA
red	**829 170 55**
yellow	**829 370 55**
clear	**829 470 55**

🛠 ACCESSORIES:

Bracket	**975 826 05**

! ADDITIONAL INFORMATION:



Function

The device is equipped with monitoring electronics which signal the current flow of the beacon back to two electrically isolated, potential-free semiconductor outputs A and B (outputs closed).

If the beacon has not been actuated, both outputs are open. In case of a fault at least one output is opened.

↔ TECHNICAL DIAGRAM:

LED Maxi Beacons – 883/884/885 families

Your benefits

WERMA's Maxi Beacons give flexible signalling over larger distances. The IP65 rated units are ideally suited for use in both indoor and outdoor applications.

838 xenon double flash:

- Very bright, even in direct sunlight and over longer distances

883/884 rotating mirror beacons:

- High intensity light and robust housing
- Easy to connect, without removing the mechanical assembly



Typical applications

Signalling faults and relaying alarms

- In building technology
- For door and gate systems
- On machinery and plant equipment, over long distances

Installation options

- Base mounting
- Tube mounting
- Bracket mounting

Features

- Tamper-proof and shock-resistant up to 20 joules
- Optional wire guard to protect against mechanical damage

883/884 rotating mirror beacons:

- Quiet, with low-wear wheel and disc drive

884 revolving beacon:

- Special Fresnel lenses produce beams of light that can be seen over longer distances even in poor light conditions

Size comparison Evo*SIGNAL* Midi/Maxi/Heavy Duty



883 Rotating Mirror Beacon





Bracket (accessory)



Plastic bracket, adaptor for tube mounting and wire guard (accessories)

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

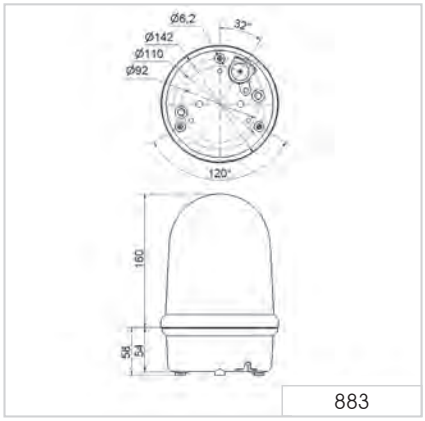
Dimensions (Ø x Height):	142 mm x 218 mm	
Housing:	PC/ABS	
Lens:	PC, transparent	
Fixing:	Base mounting, bracket mounting, tube mounting (accessory)	
Cable entry:	Cable diameter 5-7 mm	
Connection:	Screw terminal 0.5 -1.5 mm^2	
Drive:	Wheel and disc drive, motor in centre of gravity	
Mirror rotation rate:	180 r.p.m.	
Life duration LED:	> 50,000 hrs	
Duty cycle:	100 %	
Voltage:	24 V AC/DC	115 -230 V AC
Current consumption:	250 mA	95 mA
red	**883 130 75**	**883 130 60**
green	**883 230 75**	**883 230 60**
yellow	**883 330 75**	**883 330 60**
blue	**883 530 75**	**883 530 60**

Further colours and voltages on request.

🛠 ACCESSORIES:

Plastic bracket for wall mounting	**975 883 06**
Adaptor for tube mounting	**975 883 09**
Base for tube mounting	**975 840 91**
Tube, Ø 25 mm, 100 mm long	**975 845 10**
Tube, Ø 25 mm, 250 mm long	**975 840 25**
Wire guard, only for base mounting	**975 883 08**

↔ TECHNICAL DIAGRAM:



883

885 Rotating Mirror Beacon







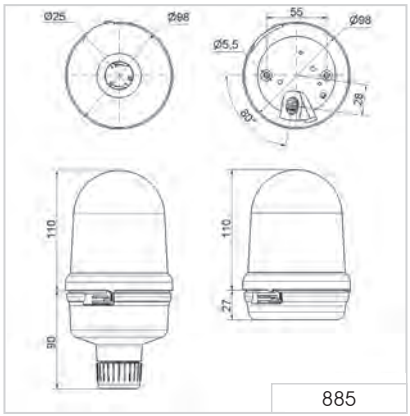
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Housing:	PC/ABS	
Lens:	PC, transparent	
Connection:	Screw terminal max. 1.5 mm²	
Cable entry:	Cable diameter 5-7 mm	
Installation position:	Standing, Tube mounting if required	
Mirror rotation rate:	c. 180 r.p.m.	
Service life of drive:	> 5,000 hrs	
Duty cycle:	100 %	
Base/Bracket mounting		
Dimensions (Ø x Height):	98 mm x 151 mm	
Voltage:	24 V AC/DC	115-230 V AC
Current consumption:	175 mA	65 mA
red	**885 130 75**	**885 130 60**
green	**885 230 75**	**885 230 60**
yellow	**885 330 75**	**885 330 60**
blue	**885 530 75**	**885 530 60**
Tube mounting		
Dimensions (Ø x Height):	98 mm x 200 mm	
Voltage:	24 V AC/DC	115-230 V AC
Current consumption:	175 mA	65 mA
red	**885 140 75**	**885 140 60**
green	**885 240 75**	**885 240 60**
yellow	**885 340 75**	**885 340 60**
blue	**885 540 75**	**885 540 60**

🛠 ACCESSORIES:

Plastic bracket for wall mounting	**975 826 05**
Wire guard, galvanised, only for base mounting	**975 826 03**
Tube Ø 25 mm, all anodised alluminium	
100 mm long	**975 845 10**
250 mm long	**975 840 25**
Base for tube mounting, plastic, Ø 25 mm	**975 840 90**
Base for tube mounting, metal, Ø 25 mm	**975 840 91**

↔ SCHÉMAS:



885

884 Revolving Signal Beacon





Bracket
(accessory)



Plastic bracket, adaptor for tube mounting and wire guard (accessories)

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

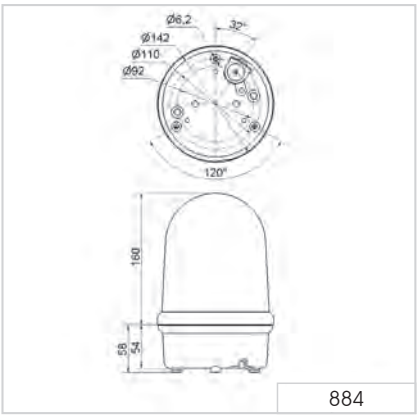
Dimensions (Ø x Height):	142 mm x 218 mm	
Housing:	PC/ABS	
Lens:	PC, transparent	
Fixing:	Base mounting, bracket mounting, tube mounting (accessory)	
Cable entry:	Cable diameter 5-8 mm	
Connection:	Screw terminal 0.5 - 1.5 mm^2	
Drive:	Wheel and disc drive, motor in centre of gravity	
Mirror rotation rate:	60 r.p.m.	
Life duration LED:	> 50,000 hrs	
Duty cycle:	100 %	
Voltage:	24 V AC/DC	115-230 V AC
Current consumption:	250 mA	95 mA
red	**884 130 75**	**884 130 60**
green	**884 230 75**	**884 230 60**
yellow	**884 330 75**	**884 330 60**
blue	**884 530 75**	**884 530 60**

Further colours and voltages on request.

🛠 ACCESSORIES:

Plastic bracket for wall mounting	**975 883 06**
Adaptor for tube mounting	**975 883 09**
Base for tube mounting	**975 840 91**
Tube, Ø 25 mm, 100 mm long	**975 845 10**
Tube, Ø 25 mm, 250 mm long	**975 840 25**
Wire guard, only for base mounting	**975 883 08**

↔ TECHNICAL DIAGRAM:



884

Evo*SIGNAL* **Midi** - LED Signal Beacon



Bracket mounting



Tube mounting

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

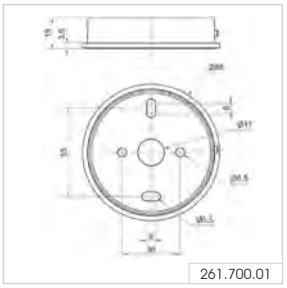
Dimensions (Ø x Height):	85 mm x 130 mm	
Housing:	PC/ABS, grey, high impact	
Lens:	PC, transparent	
Fixing:	Base/Tube/Wall mounting	
Cable entry:	Cable Diameter 8-12 mm	
Connection:	Push-In terminal max. 1.5 mm²	
Rotation		
Rotation rate:	180 r.p.m.	
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 130 mA	≤ 110 mA
red	**261 140 70**	**261 140 60**
green	**261 240 70**	**261 240 60**
yellow	**261 340 70**	**261 340 60**
white	**261 440 70**	**261 440 60**
blue	**261 540 70**	**261 540 60**

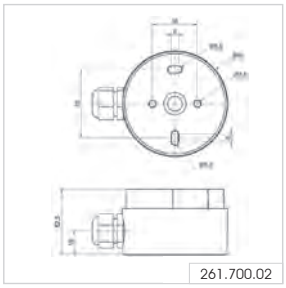
🛠 ACCESSORIES:

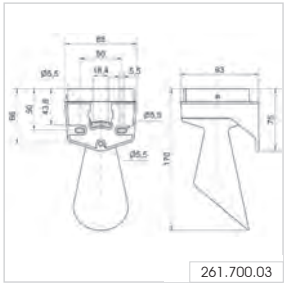
Base mounting	**261 700 01**
Base mounting with cable gland	**261 700 02**
Tube mounting	**261 700 05**
Bracket mounting with cable gland	**261 700 06**
Bracket mounting	**261 700 07**
Horn	**261 700 03**

↔ TECHNICAL DIAGRAM:

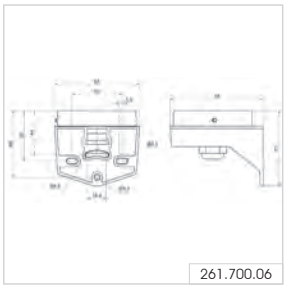

261

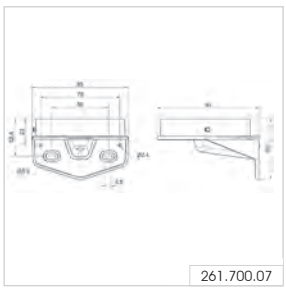

261.700.01


261.700.02


261.700.03


261.700.05


261.700.06


261.700.07

261 | 261.700.01 | 261.700.02 | 261.700.05 | 261.700.06 | 261.700.07 | 261.700.03

186 g | 38 g | 98 g | 56 g | 95 g | 47 g | 127 g | IP66 | +60°C | -30°C

Evo*SIGNAL* **Maxi** - LED Signal Beacon



Bracket mounting with cable gland



Base mounting with cable exit at side

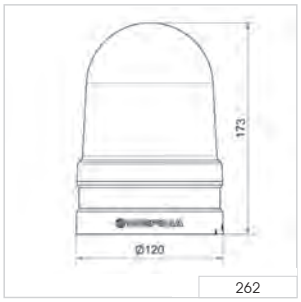
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	120 mm x 173 mm	
Housing:	PC/ABS	
Lens:	PC, transparent	
Fixing:	Base/Wall/Tube mounting	
Cable entry:	Cable Diameter 8-12 mm	
Connection:	Push-In terminal max. 1.5 mm²	
Rotation rate:	180 r.p.m.	
Flash/Blinking frequency:	1 Hz	
Rotating		
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 550 mA	≤ 170 mA
red	**262 140 70**	**262 140 60**
green	**262 240 70**	**262 240 60**
yellow	**262 340 70**	**262 340 60**
white	**262 440 70**	**262 440 60**
blue	**262 540 70**	**262 540 60**

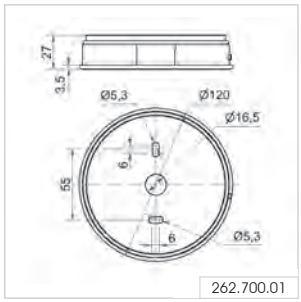
🛠 ACCESSORIES:

Base mounting	**262 700 01**
Base mounting with cable exit at side	**262 700 02**
Bracket mounting with cable gland	**262 700 06**
Bracket mounting with concealed cable entry	**262 700 07**

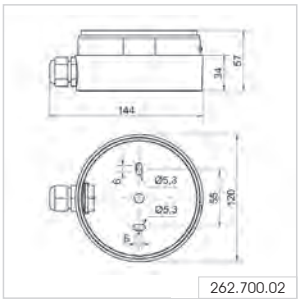
↔ TECHNICAL DIAGRAM:



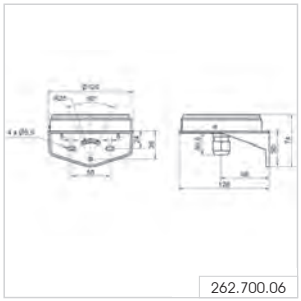
262

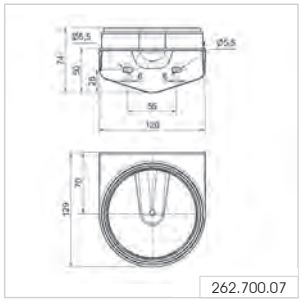


262.700.01



262.700.02


262.700.06



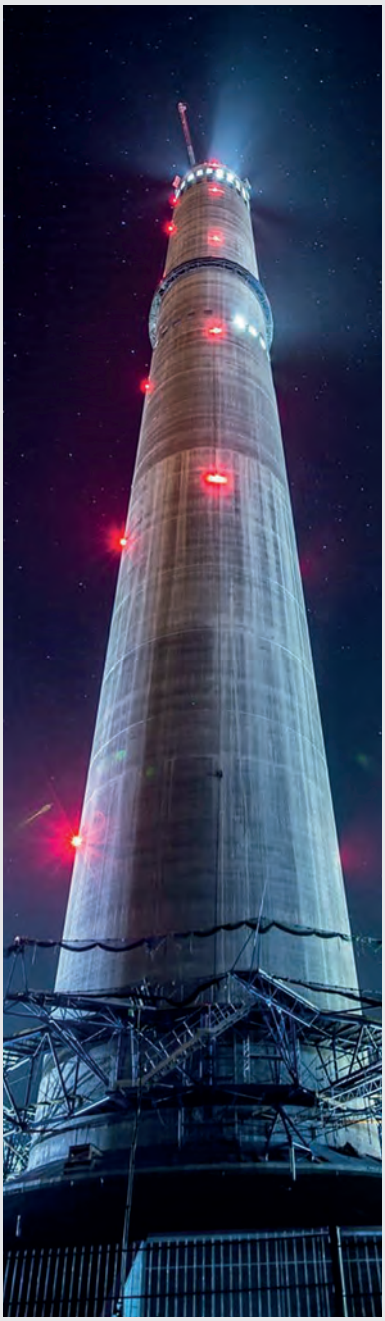
262.700.07

262	262.700.01	262.700.02	262.700.06	262.700.07
348 g	90 g	179 g	114 g	120 g

IP66 | +60°C / -30°C

Obstruction Light





Why do obstacles need to be illuminated?

The law stipulates that buildings of a specific height and in the vicinity of airports as well as factory chimneys, towers, masts etc. must be equipped with obstruction lights.

This special lighting makes obstacles visible for pilots in the dark or when visibility is poor. Obstruction lighting is one of the most important aspects of flight safety.

What directives and regulations are there?

The method of marking obstacles to air traffic is laid down by diverse laws, regulations and recommendations. These regulations have a clearly defined sphere of influence and are **internationally interlinked.**

The International Civil Aviation Organisation **(ICAO)** is a special organisation within the United Nations created to establish and develop universal regulations for safety, continuity and economic efficiency in international air traffic. The recommendations of the ICAO are not directly binding in the member states, but must be transformed by them into the appropriate **national legal regulations.**

In **Germany** the Ministry for Transport and Construction Development **(BMVBS)** issues the regulations covering obstruction lighting on buildings. The **ICAO** regulations regarding the methods of marking and lighting aviation obstacles can be found in ICAO Annex 14.

- **"Low intensity obstacle beacon type A":** a red permanent night-time warning beacon for fixed obstructions with a brightness of 10 cd.
- **"Low intensity obstacle beacon type B":** a red permanent night-time warning beacon for fixed obstructions with a brightness of 32 cd.

Where are obstacle lights deployed?

- **Germany:** Marking of aviation obstacles by night at any height providing the highest point of the obstacle can be marked.
- **According to ICAO:** Marking of aviation obstacles by night up to 45 m ("Low-intensity Obstacle Light, Type A"), additionally in combination with "medium-intensity obstacle lights"

280 Low-intensity LED Obstruction Light Type A and B



LED Obstruction Light Type B



LED Obstruction Light Type A - The adaptor (accessory) allows quick and simple mounting on a tube



Plastic bracket, adaptor for tube mounting (accessories)

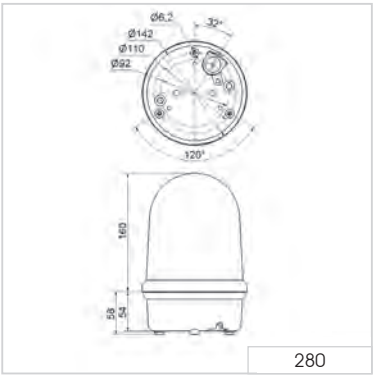
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	142 mm x 218 mm		
Housing:	PC/ABS-Blend		
Lens:	PC, transparent, clear		
Connection:	Screw terminal 0.5 - 1.5 mm^2		
Cable entry:	Cable diameter 5-7 mm		
Fixing:	Base mounting, bracket mounting (accessory), tube mounting (accessory)		
Duty cycle:	100 %		
Life duration:	Up to 50,000 hrs		
Current consumption at failure of 2 of the 12 LED strips: < 50mA			
Low-intensity LED Obstruction Light Type A			
Voltage:	12-50 V DC		
Current consumption:	500-100 mA		
aviation red	**280 410 55**		
Low-intensity LED Obstruction Light Type B (includes Type A)			
Voltage:	24 V DC	230 V AC	230 V AC (monitorable)
Current consumption:	~ 500 mA	~ 200 mA	~ 200 mA / < 50 mA (Failure mode)
aviation red	**280 470 55**	**280 470 68**	**280 480 68**

🛠 ACCESSORIES:

Plastic bracket for wall mounting	**975 883 06**
Wire guard, only for base mounting	**975 883 08**
Adaptor for tube mounting	**975 883 09**

↔ TECHNICAL DIAGRAM:



280

281 Low-intensity LED Obstruction Light Type A and B



LED Obstruction Light Type B



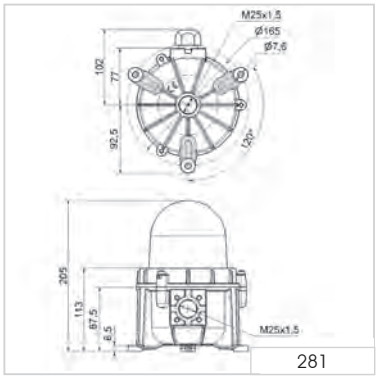
LED Obstruction Light Type A



ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	165 mm x 205 mm		
Housing:	Aluminium, coloured powder coating		
Lens:	Reinforced borosilicate glass		
Connection:	Screw terminal 0.5 - 1.5 mm^2		
Cable entry:	Cable gland M25 x 1.5 mm (included in assembly), Cable diameter 9-17 mm Reducer unit (included in assembly)		
Fixing:	Base mounting, tube mounting M25 (no accessory required)		
Life duration:	Up to 50,000 hrs		
Low-intensity LED Obstruction Light Type A			
Voltage:	12-50 V DC		
Current consumption:	500-100 mA		
aviation red	**281 410 55**		
Low-intensity LED Obstruction Light Type B (includes Type A)			
Voltage:	24 V DC	230 V AC	230 V AC (monitorable)
Current consumption:	~ 500 mA	~ 200 mA	~ 200 mA / < 50 mA (Failure mode)
aviation red	**281 470 55**	**281 470 68**	**281 480 68**

↔ TECHNICAL DIAGRAM:



281

Heavy-Duty Beacons - 839

Your benefits

The heavy-duty beacons have the advantage of a robust and seawater-resistant aluminium housing unit in conjunction with a shock-resistant wire guard. These products are therefore especially suitable for use in harsh environments, locations exposed to seawater, or situations where excellent shock resistance is required.

- Maintenance-free operation permits use in locations where access is difficult
- Optimum protection against even severe mechanical strain or exposure to seawater

Typical applications

Signalling faults and relaying alarms

- In outdoor and indoor areas under extreme conditions
- For maritime applications on ships or in harbour areas

Installation options

- Base mounting
- Bracket mounting

Features

- Special screwed cable gland for equalising the pressure in the housing with the environmental pressure
- IP66 / 67 for use in harsh conditions



Size comparison Evo*SIGNAL* Midi/Evo*SIGNAL* Maxi/Heavy Duty



839 LED Permanent Beacon



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

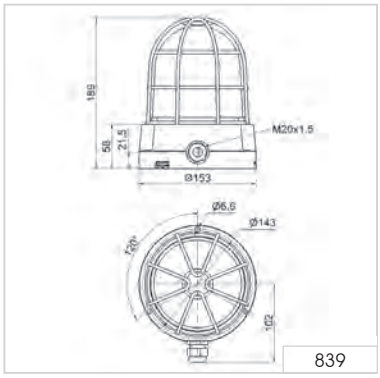
Dimensions (Ø x Height):	153 mm x 189 mm	
Housing:	Black coated aluminium with integral wire guard	
Lens:	PC, transparent	
Fixing:	Base mounting, Bracket mounting (accessory)	
Connection:	Screw terminal 0.5 - 1.5 mm^2	
Cable entry:	Cable gland M20 x 1.5 mm (included in assembly) Cable diameter 6-13 mm	
Installation position:	As required	
Life duration:	Up to 50,000 hrs	
Voltage:	12-50 V DC	230 V AC
Current consumption:	500-100 mA	50 mA
red	**839 100 55**	**839 100 68**
yellow	**839 300 55**	**839 300 68**

ACCESSORIES:

Mounting bracket	**975 839 02**



TECHNICAL DIAGRAM:



839

839 LED Rotating Beacon





Mounting bracket
(accessory)

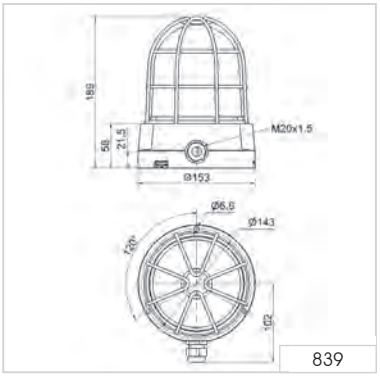
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	153 mm x 189 mm	
Housing:	Black coated aluminium with integral wire guard	
Lens:	PC, transparent	
Fixing:	Base mounting, Bracket mounting (accessory)	
Connection:	Screw terminal 0.5 -1.5 mm^2	
Cable entry:	Cable gland M20 x 1.5 mm (included in assembly) Cable diameter 6-13 mm	
Installation position:	As required	
Rotation rate:	c. 180 r.p.m.	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	150 mA	70-180 mA
red	**839 120 55**	**839 120 68**
yellow	**839 320 55**	**839 320 68**

🛠 ACCESSORIES:

Mounting bracket	**975 839 02**

↔ TECHNICAL DIAGRAM:



839

Flex*SQUARE* – Square shaped beacons

Your benefits

The compact 853 LED beacon is particularly versatile. With an IP67 protection rating, it is suitable for all indoor and outdoor applications, even in harsh environmental conditions.

- Powerful high-output, forward-directed light effect
- Clearly visible, also from the side
- Easy mounting and electrical installation thanks to the elastic, self-sealing, membranes or optional M20 cable gland for mounting on different sides
- Many combinations possible (traffic lights, for example)
- Where space is restricted: Multi-coloured version available, with up to seven colours

153 multi-tone siren:

- Loud audible signal to complement 853 beacon or as a stand-alone product
- Eight signal tones to choose from and a signal escalation option using three different externally triggerable tones



Typical applications

Signalling of faults

- In lift and hoist systems (48 V)
- In building technology

Installation options

- Wall mounting
- Base mounting

Features

- Signal escalation possible with LED permanent light, LED double flash and EVS light in different colours
- Wide range of light effects and voltage options (12V, 24V, 48V and 115-230V)
- With the multi-coloured version, the three basic colours red, yellow and green can be activated with just two PLC outputs. With a third output, a further four colours are available

153 multi-tone siren:

- The sound output can be adjusted remotely

Size comparison
Evo*SIGNAL* Mini/Flex*SQUARE*/Evo*SIGNAL* Maxi



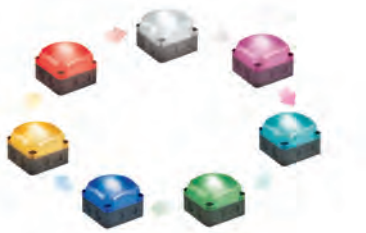
853 LED Permanent Beacon





ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	85 mm x 85 mm x 72 mm			
Housing:	PP-GF, black			
Lens:	PC, transparent			
Connection:	Screw terminal 0.5 - 1.5 mm^2 CAGE CLAMP® 0.5 to 1.5 mm^2 (Multicolour, RGY)			
Fixing:	Wall, base and ceiling mounting			
Possible colours:	Red, yellow, green, white, blue, violet, turquoise (multicolour)			
Equipment:	Elastic self-sealing membranes for cable entry without tools Eight integrated M20 threads, no nuts required Optional use of a cable gland, thread length of cable gland ≤ 9 mm (accessory)			
Assembly:	Incl. snap-on fixing bracket (optional use)			
Life duration:	Up to 50,000 hrs			
LED Permanent Beacon				
Voltage:	12 V DC	24 V DC	48 V AC	115-230 V AC
Current consumption:	< 180 mA	< 80 mA	< 35 mA	< 40 mA
red	**853 100 54**	**853 100 55**	**853 100 66**	**853 100 60**
green	**853 200 54**	**853 200 55**	**853 200 66**	**853 200 60**
yellow	**853 300 54**	**853 300 55**	**853 300 66**	**853 300 60**
clear	**853 400 54**	**853 400 55**	**853 400 66**	**853 400 60**
blue	**853 500 54**	**853 500 55**	**853 500 66**	**853 500 60**
LED Permanent Beacon (multicolour)				
Voltage:		24 V DC		115-230 V AC
Current consumption:		< 150 mA		< 35 mA
Multicolour		**853 480 55**		-
RGY (red, green, yellow)		-		**853 480 60**

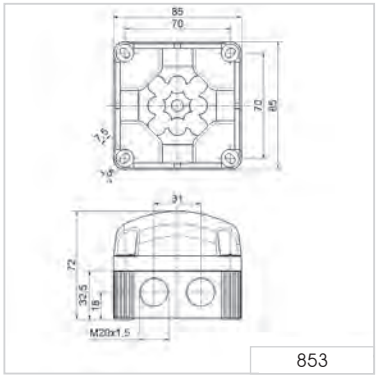


LED Permanent Light multicolour: 7 colours in one beacon: red, yellow, green, clear, blue, violet, turquoise

🛠 ACCESSORIES:

Connector for traffic light combinations	**975 853 01**
Cable gland M20 x 1.5 mm, 8mm thread length	**975 853 02**

↔ TECHNICAL DIAGRAM:



853

24 V

853 LED Double Flash Beacon





Intense double flash effect
with low power consumption

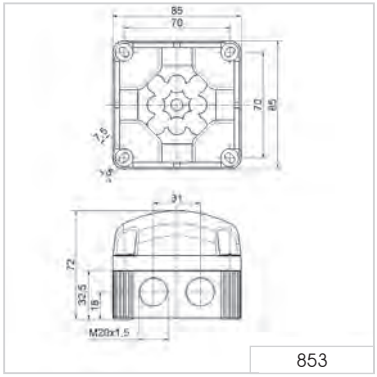
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	85 mm x 85 mm x 72 mm			
Housing:	PP-GF, black			
Lens:	PC, transparent			
Connection:	Screw terminal 0.5 - 1.5 mm^2			
Fixing:	Wall, base and ceiling mounting			
Equipment:	Elastic self-sealing membranes for cable entry without tools Eight integrated M20 threads, no nuts required Optional use of a cable gland, thread length of cable gland ≤ 9 mm (accessory)			
Assembly:	Incl. snap-on fixing bracket (optional use)			
Life duration:	Up to 50,000 hrs			
Voltage:	12 V DC	24 V DC	48 V AC	115-230 V AC
Current consumption:	< 100 mA	< 80 mA	< 95 mA	< 180 mA
red	**853 110 54**	**853 110 55**	**853 110 66**	**853 110 60**
green	**853 210 54**	**853 210 55**	**853 210 66**	**853 210 60**
yellow	**853 310 54**	**853 310 55**	**853 310 66**	**853 310 60**
clear	**853 410 54**	**853 410 55**	**853 410 66**	**853 410 60**
blue	**853 510 54**	**853 510 55**	**853 510 66**	**853 510 60**

🛠 ACCESSORIES:

Connector for traffic light combinations	**975 853 01**
Cable gland M20 x 1.5 mm, 8mm thread length	**975 853 02**

↔ TECHNICAL DIAGRAM:



853

24 V

853 LED EVS Beacon





The innovative connector (accessory) enables traffic light combinations to be created in a matter of seconds



The "EVS" light signal ensures a maximum attention-grabbing effect

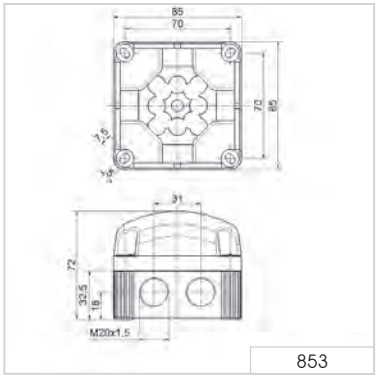
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	85 mm x 85 mm x 72 mm			
Housing:	PP-GF, black			
Lens:	PC, transparent			
Connection:	Screw terminal 0.5 - 1.5 mm^2			
Cable entry:	Cable diameter max. 8 mm, optional cable gland M20 (accessory)			
Fixing:	Wall, base and ceiling mounting			
Equipment:	Elastic self-sealing membranes for cable entry without tools Eight integrated M20 threads, no nuts required Optional use of a cable gland, thread length of cable gland ≤ 9 mm (accessory)			
Assembly:	Incl. snap-on fixing bracket (optional use)			
Life duration:	Up to 50,000 hrs			
Voltage:	12 V DC	24 V DC	48 V AC	115-230 V AC
Current consumption:	< 400 mA	< 200 mA	< 95 mA	< 160 mA
red	**853 120 54**	**853 120 55**	**853 120 66**	**853 120 60**
green	**853 220 54**	**853 220 55**	**853 220 66**	**853 220 60**
yellow	**853 320 54**	**853 320 55**	**853 320 66**	**853 320 60**
clear	**853 420 54**	**853 420 55**	**853 420 66**	**853 420 60**
blue	**853 520 54**	**853 520 55**	**853 520 66**	**853 520 60**

🛠 ACCESSORIES:

Connector for traffic light combinations	**975 853 01**
Cable gland M20 x 1.5 mm, 8mm thread length	**975 853 02**

↔ TECHNICAL DIAGRAM:



853

24 V

853 LED Traffic Light



The innovative connector (accessory) enables traffic light combinations to be created in a matter of seconds



Three highly visible light effects are available



The LED beacon can be used with the sounder

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

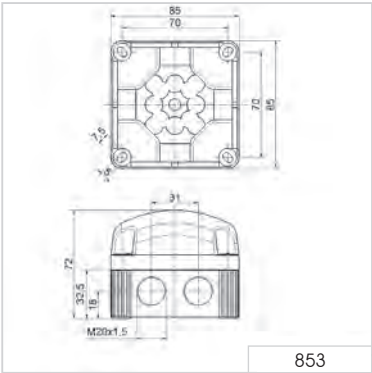
Dimensions (L x H x W):	85 mm x 85 mm x 72 mm
Housing:	PP-GF, black
Lens:	PC, transparent
Connection:	Screw terminal 0.5 - 1.5 mm² CAGE CLAMP® 0.5 - 1.5 mm² (Multicolour, RGY)
Fixing:	Wall, base and ceiling mounting
Possible colours:	Red, green, yellow, clear, blue
Operating voltage:	12 V DC, 24 V DC, 115-230 V AC
Current consumption:	Max. 80 mA at 24 V (LED Permanent Beacon) Max. 80 mA at 24 V (LED Double Flash Beacon) Max. 200 mA at 24 V (LED EVS Beacon) Max. 150 mA at 24 V (Multicolour)
Equipment:	Eight self-sealing membranes for cable entry without tools Eight integrated M20 threads, no nuts required Optional use of a cable gland, thread length of cable gland ≤ 9 mm (accessory)
Assembly:	Incl. snap-on fixing bracket (optional use)
Life duration:	Up to 50,000 hrs

LED Permanent Beacon 853	**see page 137**
LED Permanent Beacon 853 (multicolour)	**see page 137**
LED Permanent Beacon 853 (RGY)	**see page 137**
LED Double Flash Beacon 853	**see page 138**
LED EVS Beacon 853	**see page 139**
Sounder 153	**see next page**

🛠 ACCESSORIES:

Connector for traffic light combinations	**975 853 01**
Cable gland M20 x 1.5 mm, 8mm thread length	**975 853 02**

↔ TECHNICAL DIAGRAM:



853

853 X00 XX | 853 X10 XX | 853 X20 XX | 24 V

853/153 Sounder/ LED Beacon Combination





The innovative connector (accessory) enables traffic light combinations to be created in a matter of seconds

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	85 mm x 85 mm x 72 mm			
Housing:	PP-GF, black			
Lens:	LED Beacon 853: PC, transparent Sounder 153: PC, tinted black			
Connection:	Screw terminal 0.5 - 1.5 mm^2			
Cable entry:	Cable diameter max. 8 mm, optional Cable gland M20 (accessory)			
Fixing:	Wall and ceiling mounting			
Current consumption:	Max. 200 mA at 24 V			
Equipment:	Eight self-sealing membranes for cable entry without tools Eight integrated M20 threads, no nuts required Optional use of a cable gland, thread length of cable gland ≤ 9 mm (accessory)			
Assembly:	Incl. snap-on fixing bracket (optional use)			
Voltage:	12 V DC	24 V DC	48 V AC	115-230 V AC
Current consumption:	70 mA	120 mA	150 mA	75 mA (115 V) 150 mA (230 V)
Order no.:	**153 000 54**	**153 000 55**	**153 000 66**	**153 000 60**

The technical specifications and order specifications of the LED Beacons can be found at www.werma.com or on page 137 (LED Permanant Beacon), page 138 (LED Double Flash Beacon) and page 139 (LED EVS Beacon).

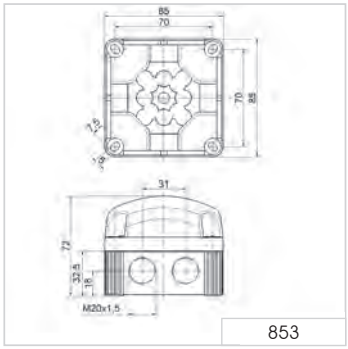
🛠 ACCESSORIES:

Connector for traffic light combinations	**975 853 01**
Cable gland M20 x 1.5 mm, 8mm thread length	**975 853 02**

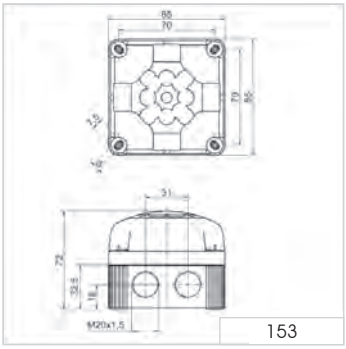
♫ TONE TYPES AND FREQUENCIES:

Tone	Tone type	Tone	Tone type
1	Continous tone (c. 3000 Hz)	5	800 - 970 Hz rising @ 1 H
2	Horn tone (c. 110 Hz)	6	2400 - 2850 Hz rising @ 7 Hz
3	1 Hz tone (c. 3,0 kHz)	7	1200 - 500 Hz falling @ 1 Hz
4	20 Hz whistle tone (c. 3,0 kHz)	8	Alternating tone 800 Hz/1200 Hz@1 Hz

↔ TECHNICAL DIAGRAM:



853



153

12 V, 24 V 48 V, 115-230 V

CE UK CA EAC 160 g IP65 +50°C -25°C 105 dB 8 1 PLC

Traffic Lights - 890/895/894

Your benefits

Signal lights and traffic lights from the 890/895/894 range provide reliable signalling, both as single lights or as combined signalling lights.

Modular traffic lights 890 and multi-tone sounder 190:

- Cost-effective LED traffic light with clear lenses
- Easy installation in just a few steps and with any combination of 4 lights

Multi-colour variant 890 (RGY):

- Drastic reduction in number of variants by combining three light colours in a single product – Ideal where space is restricted
- Additional high-output audible signalling of up to 110 dB(A) available in combination with multi-tone sounder/vocal alarm 190

Compact LED traffic light 894 for extreme ambient conditions:

- With high IP65/IP69K protection rating for use in extremely harsh conditions



Typical applications

- Garages and car parks
- Access control or buildings
- Traffic regulation on construction sites
- Signalling for loading bays
- Car washes/washing areas

Installation options

Modular traffic light 890:

- Direct mounting or bracket mounting of up to 4 lights with fixing bracket

Compact LED traffic light 894:

- Wall mounting and tube mounting with additional adapter

Features

190 Vocal Alarm:

- The vocal alarm enables the high-output playback of spoken messages, music and tones provided in mp3 format

Size comparison Midi/Traffic Lights



890 LED Beacon/LED Traffic Light



LED Permanent Beacon



LED Traffic Light Combination with mounting bracket (accessory)



Clear lenses ensure effective signalling even in direct sunlight

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	150 mm x 154 mm	
Housing:	PC/ABS-Blend, grey	
Lens:	PC, transparent	
Fixing:	Base mounting, bracket mounting (accessory),tube mounting (accessory)	
Cable entry:	From top or bottom with cable gland M20 x 1.5 mm or from the back with rubber grommet Ø 6-12 mm, included in assembly.	
Colours:	Red, green, yellow	
Connection:	CAGE CLAMP® 0.5 - 1.5 mm^2	
Installation position:	As required	
Life duration:	Up to 50,000 hrs	
LED Beacon/LED Traffic Light		
Voltage:	12-24 V DC	115-230 V AC
Current consumption:	< 260 mA	< 35 mA
red	**890 120 55**	**890 120 68**
green	**890 220 55**	**890 220 68**
yellow	**890 320 55**	**890 320 68**
LED Permanent Light (RGY)		
Voltage:	12-24 V DC	230 V AC
Current consumption:	< 220 mA	< 40 mA
RGY (red, green, yellow)	**890 480 55**	**890 480 68**

🛠 ACCESSORIES:

FIXING BRACKET

Fixing bracket for one beacon	**975 890 33**
Fixing bracket for two beacons	**975 890 34**
Fixing bracket for three beacons	**975 890 35**
Fixing bracket for four beacons	**975 890 37**

Mounting material and connecting grommet included in assembly.
Further information can be found on page 144.

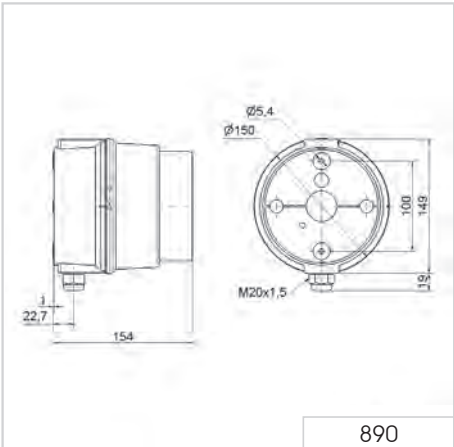
CONNECTING GROMMET

Connecting grommet for traffic light combinations	**975 890 25**

! ADDITIONAL INFORMATION:

Traffic light configurator at **www.werma.com**

↔ TECHNICAL DIAGRAM:



890

890/190 (LED) Beacon 890/Multi-Tone Sounder 190/Vocal alarm 190 Combination



High-output
traffic light combination



Vocal alarm 190

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

(LED-)Beacon/Sounder 190/Vocal Alarm 190			
Dimensions (Ø x Height):	150 mm x 154 mm (890) 150 mm x 127 mm (190) 150 mm x 148 mm (Vocal Alarm 190)		
Housing:	PC/ABS-Blend, grey		
Lens:	PC, transparent		
Fixing:	Base mounting, fixing bracket (accessory)		
Cable entry:	From top or bottom with cable gland M20 x 1.5 mm or from the back with rubber grommet Ø 6-12 mm, included in assembly		
Connection:	CAGE CLAMP® 0.5 - 1.5 mm^2		
Vocal Alarm 190			
Sound output:	Adjustable, up to 110 dB		
File Transfer:	Via USB connection and provided software		
Possible data format:	mp3 and wav files		
Number of sequences:	15 files can be remotely triggered or one sequence with max. 50 files		
Suitable for:	Windows®, System requirements - see Handbook		
Assembly:	Vocal alarm, USB connection cable and software		
Multi-Tone Sounder 190			
Voltage:	10-30 V DC	115 V AC	230 V AC
Current consumption:	< 180 mA	< 55 mA	< 30 mA
grey	**190 000 55**	**190 000 67**	**190 000 68**
Vocal Alarm 190			
Voltage:	24 V DC		
Current consumption:	< 500 mA Low Power < 1500 mA High Power		
grey	**190 020 55**		
LED Beacon 890 see page 143			
Permanent Beacon 890 see page 146			

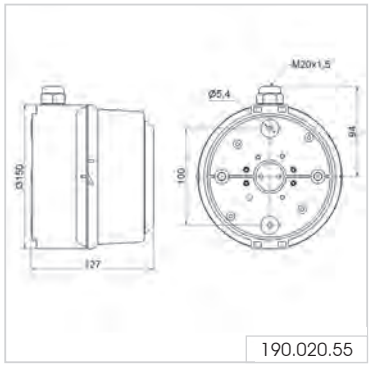
🛠 ACCESSORIES:

Fixing bracket, tube adaptor and connecting grommet see page 144

♬ TONE TYPES AND FREQUENCIES:

Selectable via DIP switch, see tone table on page 180.

↔ TECHNICAL DIAGRAM:



190.020.55

(A)

895 Permanent Beacon





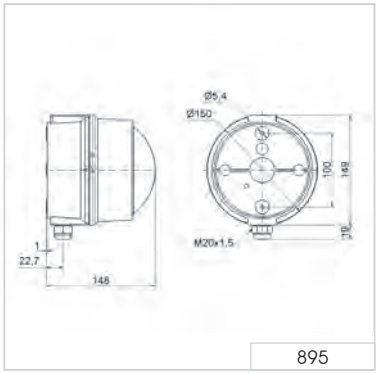
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	150 mm x 148 mm
Housing:	PC/ABS-Blend, grey
Lens:	PC, transparent
Socket:	E27 max. 25 W with adhesive stickers E27 max. 15 W
Fixing:	Base mounting, tube mounting and fixing bracket (accessory)
Connection:	Screwed cable gland 0.5 - 1.5 mm^2
Cable entry:	From top or bottom with cable gland M20 x 1.5 mm or from the back with rubber grommet Ø 6-12 mm
Voltage:	12-230 V AC/DC
red	**895 100 00**
green	**895 200 00**
yellow	**895 300 00**
clear	**895 400 00**
blue	**895 500 00**
Bulb not included in assembly.	

🛠 ACCESSORIES:

Fixing bracket, additional reflector, Bulbs and LED Bulbs, Adhesive Stickers see Permanent/ Traffic Light Beacon (page 147).

↔ TECHNICAL DIAGRAM:



895

890 Permanent/Traffic Light



Permanent Beacon



Traffic Light Combination
with mounting bracket
(accessory)

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	150 mm x 154 mm
Housing:	PC/ABS-Blend, grey
Lens:	PC, transparent
Socket:	E27 max. 25 W for 890 X00 00 with adhesive stickers E27 max. 15 W
Fixing:	Base mounting, fixing bracket (accessory), tube mounting (accessory)
Connection:	Screwed cable gland 0.5 - 1.5 mm^2
Cable entry:	From top or bottom with cable gland M20 x 1.5 mm or from the back with rubber
PERMANENT BEACON	
Voltage:	12-230 V AC/DC
red	**890 100 00**
green	**890 200 00**
yellow	**890 300 00**
clear	**890 400 00**
blue	**890 500 00**
Further colours and voltages on request.	

ACCESSORIES: SEE NEXT PAGE

890 Permanent/Traffic Light Beacon



Beacon 890 in combination with Multi-Tone Sounder 190 (see page 144)



The adaptor (accessory) allows quick and simple mounting on a tube (Ø 75 mm)

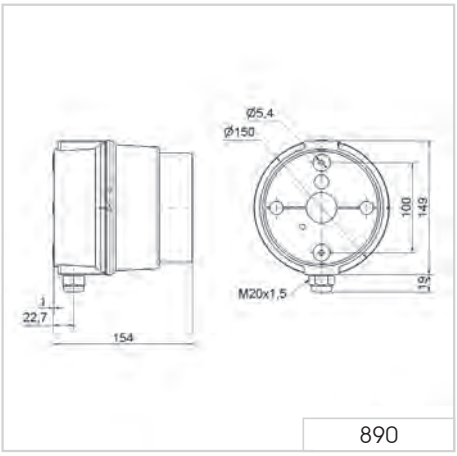


890 with adhesive sticker (accessory)

ACCESSORIES:

FIXING BRACKET	
Fixing bracket for one beacon	**975 890 33**
Fixing bracket for two beacons	**975 890 34**
Fixing bracket for three beacons	**975 890 35**
Fixing bracket for four beacons	**975 890 37**
Mounting material and connecting grommet included in assembly. Further information can be found on page 148.	
CONNECTING GROMMET	
Connecting grommet for traffic light combinations	**975 890 25**
REFLECTOR	
Additional reflector for 890 X00 00	**975 890 02**
ADAPTER	
Tube adapter	**975 890 36**
BULBS	
LED bulb premium E27, 24 V	**956 X20 75**
LED bulb premium E27, 115 V	**956 X20 67**
LED bulb premium E27, 230 V	**956 X20 68**
For colours see page 149	
LED Bulb E27, 115 V AC, white	**956 050 67**
LED Bulb E27, 230 V AC, white	**956 050 68**
LED Bulb E27, 12-24 V AC/AC, white	**956 050 75**
ADHESIVE STICKERS:	
→	**975 890 52**
STOP	**975 890 53**
START	**975 890 54**
ϟ	**975 890 64**
✋	**975 890 65**

↔ TECHNICAL DIAGRAM:



890

890 Fixing bracket for 890/190

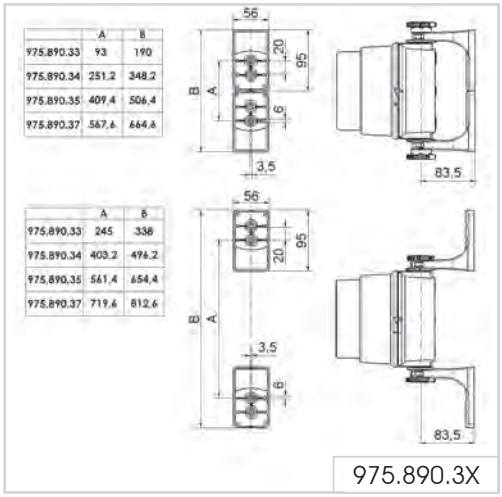


Fixing bracket for
(LED) Beacons 890
and Multi-Tone Sounder 190

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Material Fixing bracket:	PC/ABS-Blend, grey
Material Connecting Grommet:	PA 6.6
Assembly:	Fixing bracket with mounting material and connecting grommet
Suitable for:	LED Beacon/LED Traffic Light 890 Permanent/Traffic Light Beacon 890 Multi-Tone Sounder 190
Fixing bracket for one beacon	**975 890 33**
Fixing bracket for two beacons	**975 890 34**
Fixing bracket for three beacons	**975 890 35**
Fixing bracket for four beacons	**975 890 37**

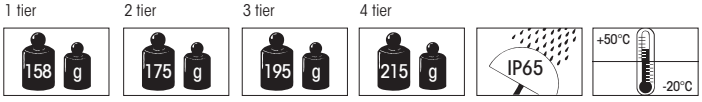
↔ TECHNICAL DIAGRAM:



975.890.3X



The fixing bracket can be mounted
pointing inwards or outwards



956 LED Bulb E27 premium





Suitable for use in
Permanent/Traffic Light
Beacons 890 (see page 146)

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:			
Socket:	E27		
For use with:	890, 895		
Slight deviatons in the form of the bulbs are possible.			
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	≤ 20 mA	≤ 30 mA	≤ 20 mA
red	**956 120 75**	**956 120 67**	**956 120 68**
green	**956 220 75**	**956 220 67**	**956 220 68**
yellow	**956 320 75**	**956 320 67**	**956 320 68**





894 LED Traffic Light (IP69k)



LED Traffic Light (3 tier)



The direction of the optical signal can be individually adjusted



Clear lenses ensure effective signalling even in direct sunlight

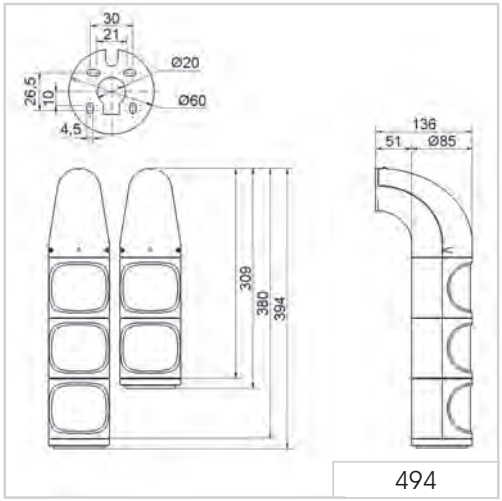
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	2 tier: 85 mm x 309 mm x 136 mm 3 tier: 85 mm x 394 mm x 136 mm	
Housing:	PC/ABS, grey	
Lens:	PC, transparent	
Fixing:	Wall mounting, tube mounting (accessory)	
Cable entry:	Cable diameter max. 13 mm	
Connection:	Screw terminal 0.5 - 1.5 mm^2	
Installation position:	Vertical/hanging	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	60 mA (red/yellow) 120 mA (green)	30 mA per tier at 230 V/50 Hz
red/green	**894 160 55**	**894 160 68**
red/yellow/green	**894 180 55**	**894 180 68**

🛠 ACCESSORIES:

Fixing bracket underneath	**975 894 01**

↔ TECHNICAL DIAGRAM:



494

2 tier 3 tier



894 LED Traffic Light (IP69k)

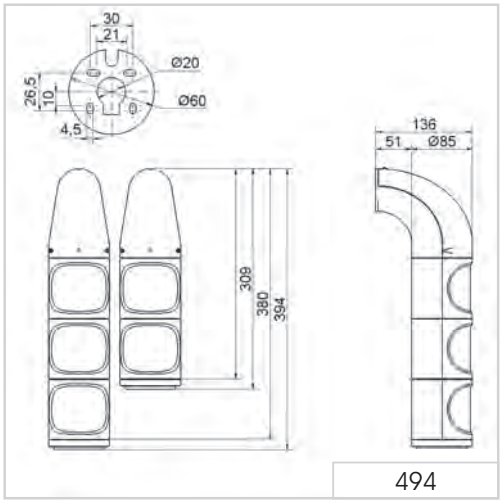


The direction of the optical signal can be individually adjusted

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	2 tier: 85 mm x 309 mm x 136 mm 3 tier: 85 mm x 394 mm x 136 mm	
Housing:	PC/ABS, grey	
Lens:	PC, transparent	
Fixing:	Wall mounting, tube mounting (accessory)	
Cable entry:	Cable diameter max. 13 mm	
Connection:	Screw terminal 0.5 - 1.5 mm^2	
Installation position:	Vertical/hanging	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Voltage:	24 V DC	115-230 V AC
Current consumption:	60 mA (red/yellow)	30 mA per tier at 230 V/50 Hz
red/green	**894 060 55**	**894 060 68**
red/yellow/green	**894 080 55**	**894 080 68**

↔ TECHNICAL DIAGRAM:



494

2 tier 3 tier




WERMA



Horns & Sirens

Overview Buzzer, Sirens, Horns and Sounders

Audible signals are everywhere!

Audible signals warn, protect and guide us in the modern industrial world. They function where caution, prudence and clarity are imperative, indicate emergencies and demand direct action. They are globally understood, irrespective of language, written or spoken.

Audible signals are deployed where an optical signal is insufficient or inappropriate. The basic signal is provided by one or more tones or a sequence of tones, raising awareness and alerting to a specific danger.

Overview **Buzzer, Sirens, Horns and Sounders**					
Product type		**Installation**	**Free-standing**	**Free-standing**	**Free-standing**
Category	**Product range**	**Installation Sirens and Buzzer**	**Evo*SIGNAL* Mini**	**Evo*SIGNAL* Midi**	**Horns & Sounders**
Dimensions (Ø x Height)* Dimensions (L x H x W)		See technical specifications			
Voltage	12 V	●	●	●	●
	24 V	●	●	●	●
	30 V				
	48 V	●			●
	115 V	●	●	●	●
	230 V	●	●	●	●
Audible	Continuous tone	●	●		●
	Pulse tone	●	●		●
	Multi-tone sounder	●		●	●
	Horn				●
	Alternating tone				●
	Vocal alarm				
	Alarm bell				
Protection rating		IP30-65	IP33-65	IP66	IP33-65
Page		Page 156	Page 165	Page 168	Page 171

* Technical diagrams can be found on the product page

			
Free-standing	**Free-standing**	**Free-standing**	**Free-standing**
Design Multi-Tone Sounder	**Vocal alarm**	**Heavy Duty Multi-Tone Sounder**	**Alarm Bell**
See technical specifications			
●		●	
●	●	●	●
●		●	
●		●	●
●		●	
	●		
			●
IP65	IP65	up to IP67	IP66
Page 178	Page 183	Page 185	Page 192

Installation Buzzers and Sounders

Your benefits

WERMA Installation Buzzers and Sounders have been specifically designed for easy installation in control panels.

- Quick and easy installation
- Tamper-proof when installed
- Minimal protrusion from panel installations where space is tight

Typical applications

Signalling faults or status messages

- in control cabinets



Installation options

- Installation mounting

Features

- Proven piezo technology (except 382)

107, 109, 110, 111

- High IP65 protection rating for outdoor applications
- Easy to connect using a plug-in connection
- Up to 8 tones for signalling different statuses

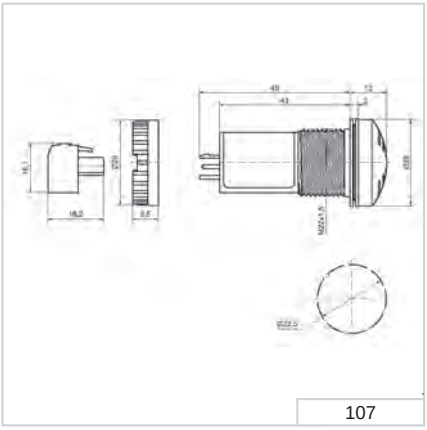
107 Electronic Installation Buzzer

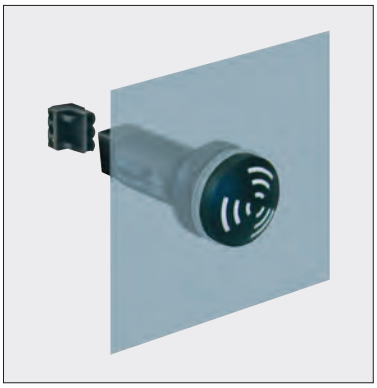


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	28 mm x 12 mm (Protrusion from panel)	
Housing:	PA fibreglass, high-impact	
Tone frequency:	c. 2,400 Hz / c. 3,200 Hz (12 V)	
Tone type:	Continuous tone or pulse tone with approx. 1 Hz	
Fixing:	Installation mounting for Ø 22.5 mm (M22)	
Connection:	Connector plug with screw terminal max. 1.5 mm²	
Life duration:	> 5,000 hrs	
Voltage:	12-24 V AC/DC	115-230 V AC
Current consumption:	8 mA	12 mA
Continuous tone	**107 000 70**	**107 000 60**
Pulse tone	**107 010 70**	**107 010 60**

↔ TECHNICAL DIAGRAM:



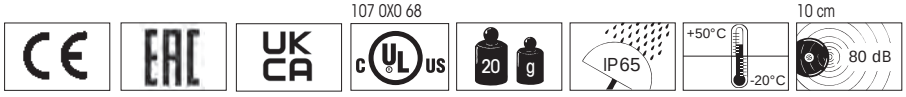


Simple connection by means of connector plug



High protection rating IP 65 for use in arduous conditions

107 0X0 7X
107 0X0 68



109 Electronic Installation Buzzer





Surface housing (accessory)



Surface housing (triple) for
2 beacons and 1 audible element
(not included in assembly)

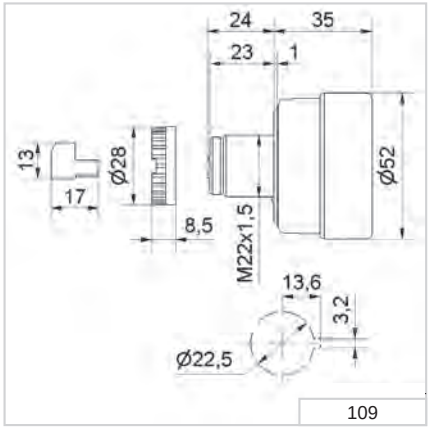
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	52 mm x 35 mm (Protrusion from panel)		
Housing:	PC/ABS-Blend; Cap: PC		
Tone frequency:	c. 2,100 Hz		
Tone type:	Continuous tone or pulse tone with approx. 1 Hz		
Fixing:	Installation mounting for Ø 22.5 mm (M22) with anti-twist device		
Connection:	Connector plug with screw terminal max. 1.5 mm²		
Life duration:	> 5,000 hrs		
Voltage:	24 V AC/DC	115 V AC/DC	230 V AC
Current consumption:	25 mA	25 mA	25 mA
Continuous tone	**109 000 75**	**109 000 77**	**109 000 68**
Pulse tone	**109 010 75**	**109 010 77**	**109 010 68**

🛠 ACCESSORIES:

Bracket with protective cap (IP54), only 24 V	**975 109 01** (see picture on page 193)
Single surface housing	**975 109 02**
Double surface housing	**975 109 03**
Triple surface housing	**975 109 04**
Assembly comprises of only the surface housing. Beacons 800-802 or 815-817 have to be ordered additionally.	

↔ TECHNICAL DIAGRAM:





110 Electronic Installation Multi-Tone Sounder





Surface housing (accessory)



Bracket (accessory)

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	72 mm x 40 mm (Protrusion from panel)		
Housing:	PC/ABS-Blend; Cap: PC		
Sound output:	Max. 100 dB (sound output is adjustable on rear side when mounted)		
Fixing:	Installation mounting for Ø 22.5 mm (M22) with anti-twist device		
Connection:	Connector plug with screw terminal max. 1.5 mm²		
Life duration:	> 5,000 hrs		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	80 mA	40 mA	40 mA
Order No.:	**110 000 75**	**110 000 67**	**110 000 68**

TONE TYPES AND FREQUENCIES:

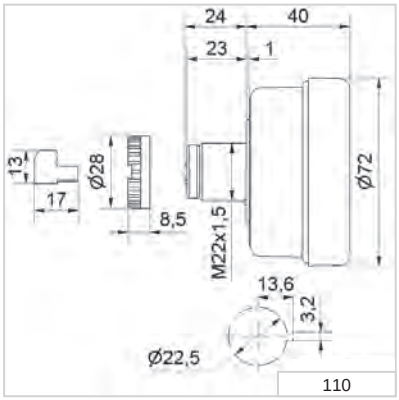
8 tones selectable on rear side of the housing

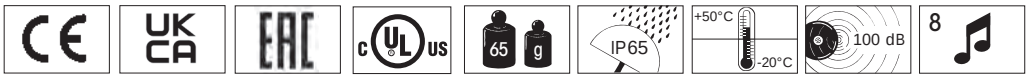
position 0	420 Hz	1.6 kHz	86 dB (A)
position 1	1 Hz	1.6 kHz	86 dB (A)
position 2	20 Hz	1.6 kHz	86 dB (A)
position 3		1.6 kHz	88 dB (A)
position 4	420 Hz	3.4 kHz	90 dB (A)
position 5	1 Hz	3.4 kHz	100 dB (A)
position 6	20 Hz	3.4 kHz	96 dB (A)
position 7		3.4 kHz	100 dB (A)

ACCESSORIES:

Bracket with protective cap (IP 54)	**975 109 01**
Surface housing IP 65 (single)	**975 109 02**
Surface housing IP 65 (double) for 1 installation beacon and 1 Installation siren	**975 109 03**
Surface housing IP 65 (triple) for 2 installation beacons and 1 Installation siren	**975 109 04**

TECHNICAL DIAGRAM:





111 Electronic Installation buzzer



With its minimum level of protrusion the installation buzzer 111 is ideal for control panel applications

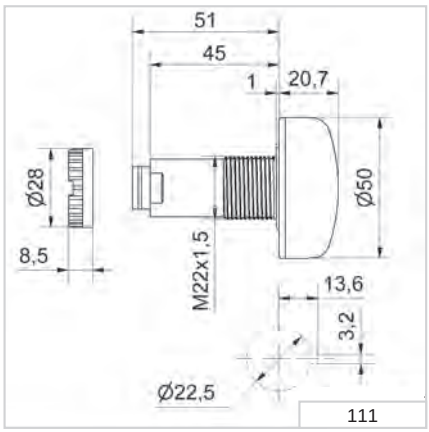
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)	
Housing:	PC/ABS-Blend, black; Cap: PC	
Tone frequency:	c. 2,800 Hz	
Tone type:	Continuous or pulse tone	
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)	
Connection:	Connector plug with screw terminal max. 1.5 mm²	
Life duration:	> 5,000 hrs	
Assembly:	Nut and seal included in assembly	
Voltage:	24 V DC	230 V AC
Current consumption:	25 mA	20 mA
Continuous tone	**111 000 55**	**111 000 68**



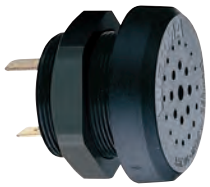
Simple installation with single hole mounting for M22

↔ TECHNICAL DIAGRAM:





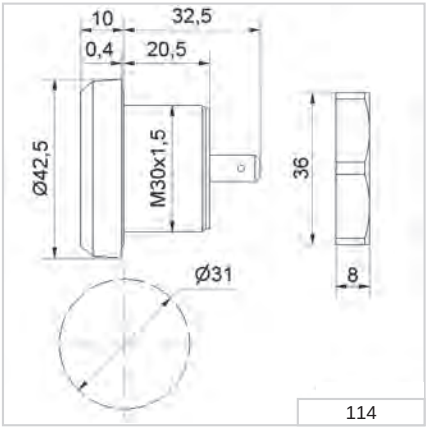
114 Electronic Installation Buzzer

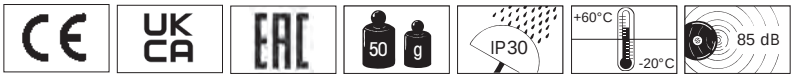


ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	42.5 mm x 10 mm (Protrusion from panel)
Housing:	PC/ABS-Blend; Nut: PA fibreglass, high-impact
Connection:	Spades 6.3 x 0.8 mm, finger proof model according to BGV A2, when used with insulated spades
Tone frequency:	c. 2,400 Hz
Fixing:	Installation mounting for Ø 30.5 mm (M30)
Voltage:	24 V DC (12-30 V)
Current consumption:	20 mA
Order No.:	**114 068 15**

↔ TECHNICAL DIAGRAM:





118/119 Electronic Installation Buzzer





Cap

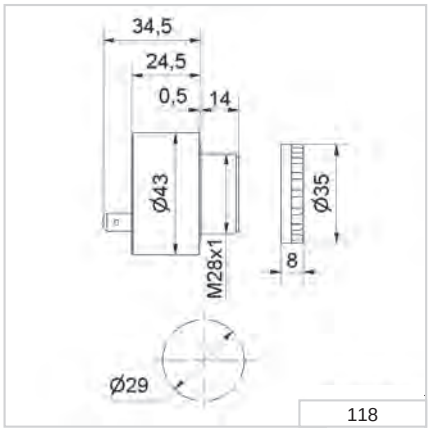
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

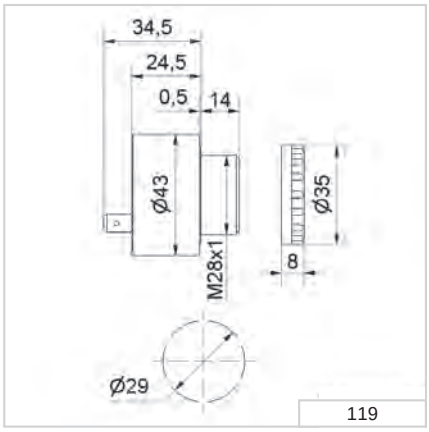
Dimensions (Ø x Height):	43 mm x 49 mm (Protrusion from panel)				
Housing:	PC/ABS-Blend				
Connection:	Spades 6.3 x 0.8 mm, finger proof model according to BGV A2, when used with insulated spades				
Tone frequency:	c. 2,400 Hz				
Tone type:	Type 118 Continuous tone Type 119 Continuous tone and pulse tone, c. 1 Hz, selectable via plug-in terminal Version with 3 tones: 2.7 kHz, 270 Hz, 337 Hz				
Fixing:	Installation mounting for Ø 28.5 mm (M28)				
Voltage:	12 V DC	24 V AC/DC	48 V AC/DC	115 V AC/DC	230 V AC
Current consumption:	20 mA	20 mA	20 mA	20 mA	20 mA
Continuous tone	**118 068 14**	**118 068 15**	**118 068 26**	**118 068 27**	**118 068 28**
Continuous/pulse tone	-	**119 068 15**	**119 068 26**	**119 068 27**	**119 068 28**
Voltage:		24 V DC (9-29 V DC)			
Current consumption:		< 30 mA (Tone 1)			
3 tones		**119 004 55**			

🛠 ACCESSORIES:

Cap	**975 118 00**

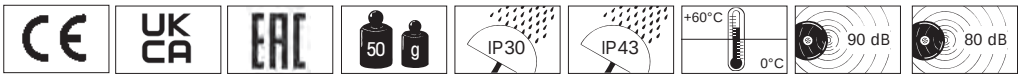
↔ TECHNICAL DIAGRAM:





With cap

With cap



Evo*SIGNAL* - Horns & Sirens



Midi

Mini

Evo*SIGNAL* - Horns & Sirens

Your benefits

The type of audible signals used depends on the application and the environment. With Evo*SIGNAL*, finding the right signal device has never been so easy: almost all applications are covered by only two sizes with specific mounting adapters. The new modular, simple and clear standard solution. Evo-*SIGNAL* is one of a kind.

- Simple and easy to use: Number of different articles reduced to 20% whilst retaining a full range
- Adaptable: Adjustable volume, 10 tones available with Midi range
- Poka Yoke: Simple and intuitive installation - incorrect installation is impossible

Typical applications

Signal faults and statuses on machines and equipment, in building services engineering and for electric gates and entry access systems. All products are ideal for demanding indoor and outdoor applications.

- Mini – in installation sites with limited space
- Midi – signalling over medium distances (10–30 m)

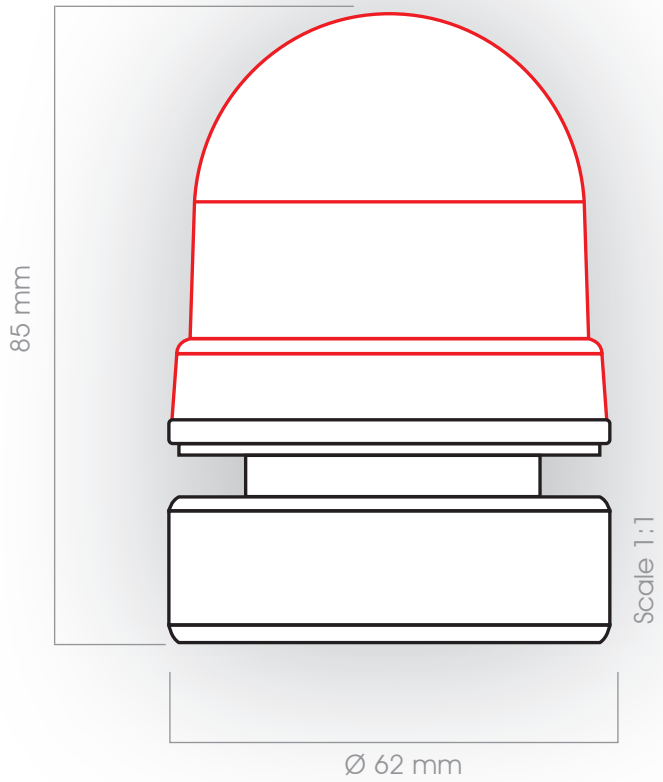
Installation options

- Base mounting
- M22/PG 29 single-hole mounting
- Tube mounting
- Bracket mounting

Features

- Push fit connection terminals: Simple and permanently secure connection
- Fully compatible: Easy replacement of previous products
- Best-in-class equipment: Powerful, extremely robust (IP66), tamper-proof





3
Horns & Sirens

6
Mounting adapter

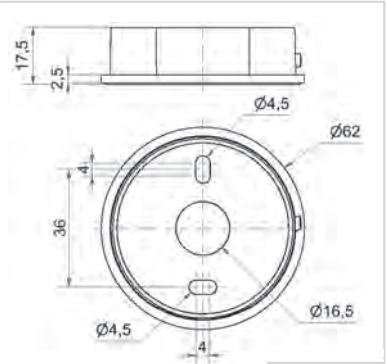
Quick-Finder Evo*SIGNAL* **Mini** - Horns & Sirens



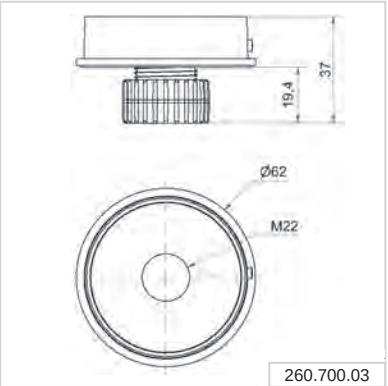
12 V AC/DC	**24 V AC/DC**	**115-230 V AC**
160 700 74	160 700 75	160 700 60

+ Mounting adapter (compulsory!)

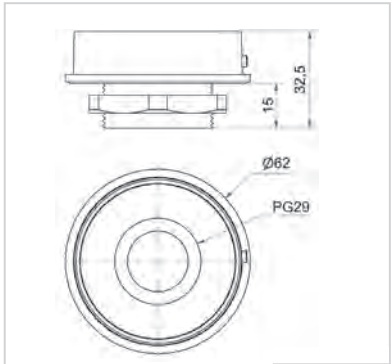
Base mounting	Installation mounting M22	Installation mounting PG 29	Tube mounting	Bracket mounting with cable gland	Bracket mounting
					
Order no. 260 700 01	Order no. 260 700 03	Order no. 260 700 04	Order no. 260 700 05	Order no. 260 700 06	Order no. 260 700 07



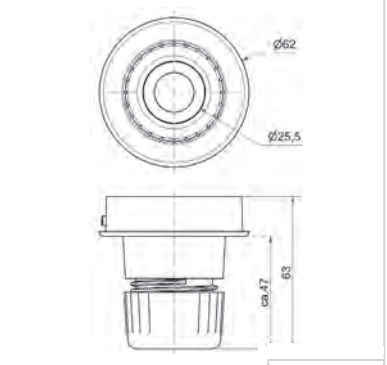
260.700.01



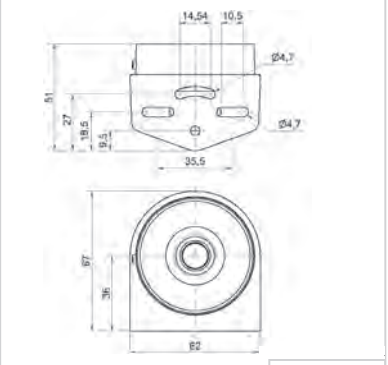
260.700.03



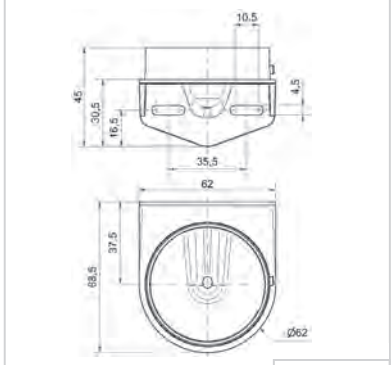
260.700.04



260.700.05



260.700.06



260.700.07

Evo*SIGNAL* **Mini** - Horns & Sirens



Bracket mounting
with cable gland

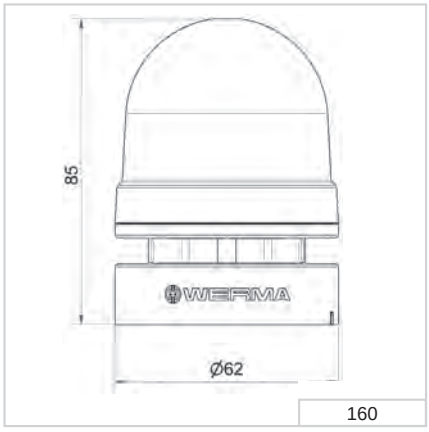
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

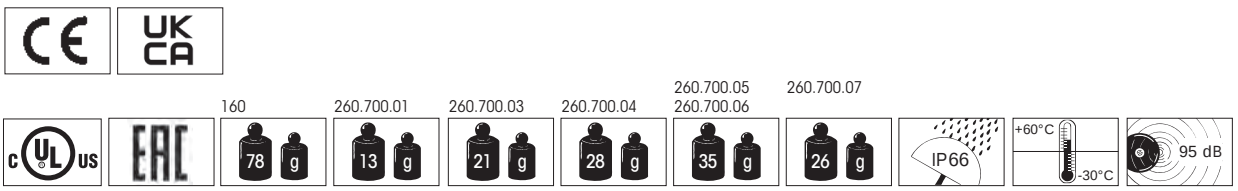
Dimensions (Ø x Height):	62 mm x 85 mm		
Housing:	PC/ABS		
Lens:	PC, grey		
Fixing:	Base/Tube/Wall and Inatallation mounting		
Cable entry:	Cable diameter 8-12 mm		
Connection:	Push-In terminal max. 1.5 mm²		
Tone type:	Pulse or Permanent tone		
Voltage:	12 V AC/DC	24 V AC/DC	115-230 V AC
Current consumption:	≤ 30 mA	≤ 40 mA	≤ 30 mA
Order no.	**160 700 74**	**160 700 75**	**160 700 60**

🛠 ACCESSORIES:

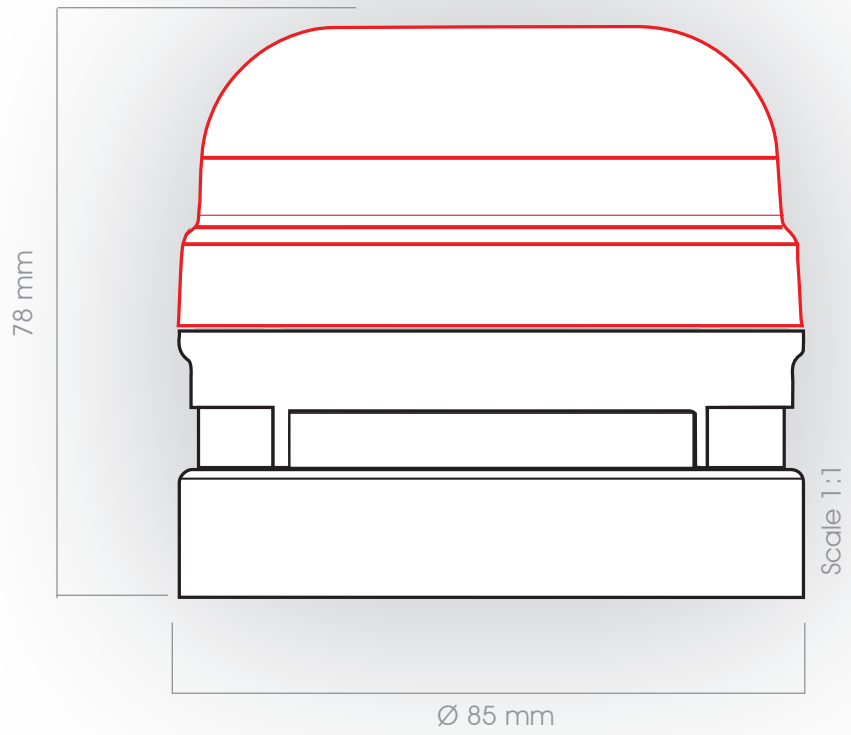
Base mounting	**260 700 01**
Installation mounting M22	**260 700 03**
Installation mounting PG 29	**260 700 04**
Tube mounting	**260 700 05**
Bracket mounting with cable gland	**260 700 06**
Bracket mounting	**260 700 07**

↔ TECHNICAL DIAGRAM:





Evo*SIGNAL* **Midi** - Horns & Sirens



2
Horns & Sirens

6
Mounting adapter

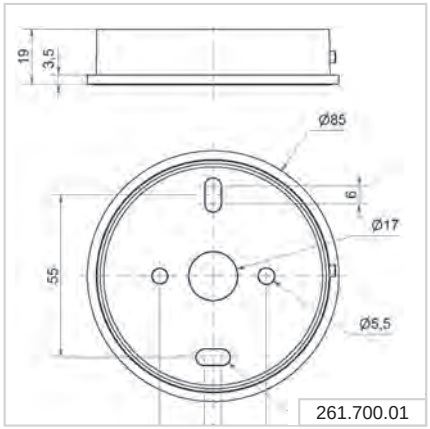
Quick-Finder Evo*SIGNAL* **Midi** - Horns & Sirens



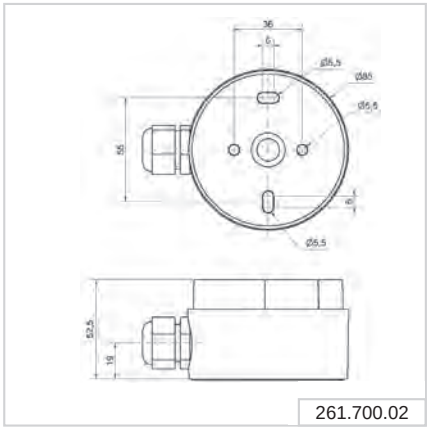
12/24 V AC/DC	**115-230 V AC**
161 700 70	161 700 60

+ Mounting adapter (compulsory!)

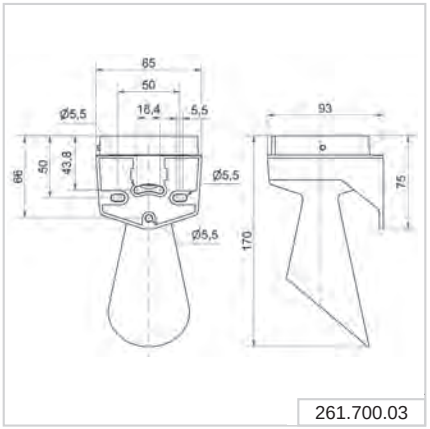
Base mounting	Base mounting with cable gland	Tube mounting	Bracket mounting with cable gland	Bracket mounting	Horn
					
Order no. 261 700 01	Order no. 261 700 02	Order no. 261 700 05	Order no. 261 700 06	Order no. 261 700 07	Order no. 261 700 03



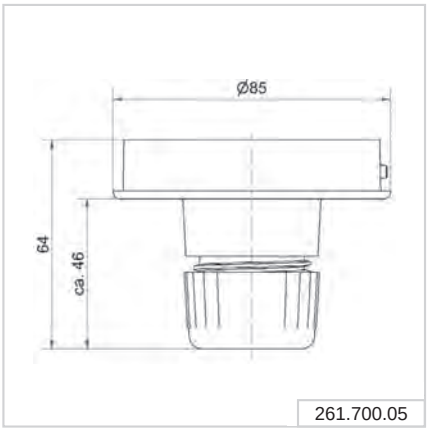
261.700.01



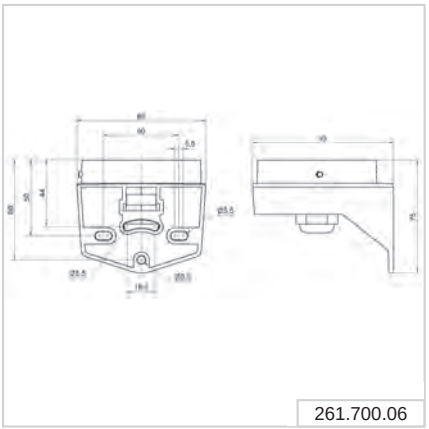
261.700.02

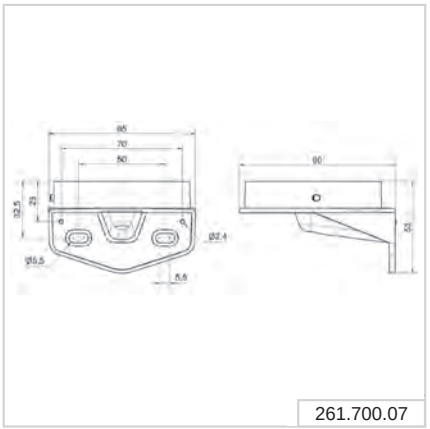


261.700.03



261.700.05


261.700.06


261.700.07

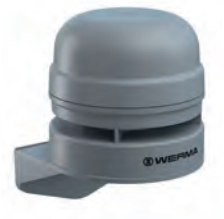
Evo*SIGNAL* **Midi** - Horns & Sirens



Base mounting



Tube mounting



Bracket mounting

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

Dimensions (Ø x Height):	85 mm x 78 mm	
Housing:	PC/ABS	
Lens:	PC, grey	
Fixing:	Base/Tube/Wall mounting	
Cable entry:	Cable diameter 8-12 mm	
Connection:	Push-In terminal max. 1.5 mm^2	
Tone type:	Multi-tone	
Tone frequency:	3300 Hz	
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 175 mA	≤ 105 mA
Order no.	**161 700 70**	**161 700 60**

TONE TYPES AND FREQUENCIES

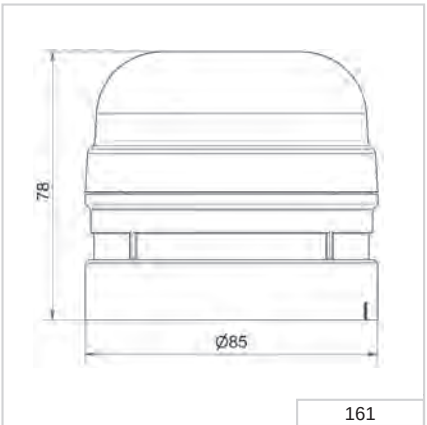
10 selectable tones and adjustable sound output

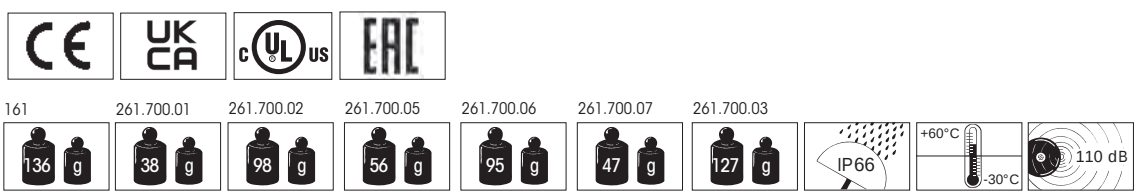
Tone	Tone type
0	Horn tone (ca. 110 Hz), max. 107 dB(A)
1	Continuous tone (ca. 3.3 kHz), max. 106 dB(A)
2	Pulse tone 1 Hz (ca. 3.3 kHz), max. 110 dB(A)
3	Whistle tone 20 Hz (ca. 3.3 kHz), max. 110 dB(A)
4	800 – 970 Hz rising @ 1 Hz, max. 95 dB(A)
5	2400 - 2850 Hz rising @ 7 Hz, max. 99 dB(A)
6	1200 – 500 Hz falling @ 1 Hz, max. 101 dB(A)
7	Alternating tone 800 Hz / 1200 Hz @ 1 Hz, max. 100 dB(A)
8	Sweep-Tone 2100 – 4100 Hz @ 0.5 Hz, max. 110 dB(A)
9	Continuous tone (c. 700 Hz), max. 97 dB(A)

ACCESSORIES:

Base mounting	**261 700 01**
Base mounting with cable gland	**261 700 02**
Tube mounting	**261 700 05**
Bracket mounting with cable gland	**261 700 06**
Bracket mounting	**261 700 07**
Horn	**261 700 03**

TECHNICAL DIAGRAM





Horns and Sirens

Your benefits

The loud Horns, Sounders and Sirens from WERMA provide safety and security by delivering reliable audible warning when faults occur over longer distances or in noisy environments.

- Quick and easy installation
- Tamper-proof when installed
- Ideal for noisy environments



Typical applications

Fault signalling

- On machine controllers and on large equipment
- In building service systems (e.g. gas alarm)
- Alarm in the event of overload (e.g. mobile cranes)

Installation options

- Wall mounting

Features

- 574/575 series with ten times longer life duration compared to electromechanical versions
- Up to 8 tones for signalling different statuses

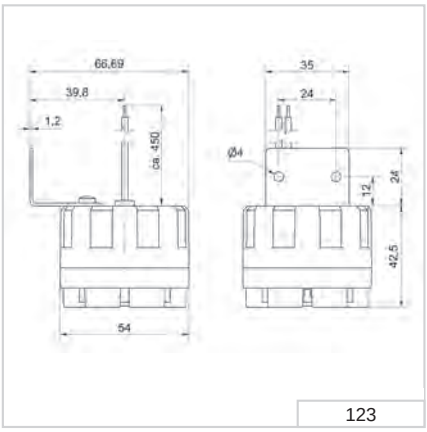
123 Electronic Siren



ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	54 mm x 67 mm x 67 mm	
Housing:	ABS	
Tone frequency:	2.5 / 3.5 Hz	
Tone type:	Alternating	
Connection:	2 wires, c. 450 mm long	
Fixing:	Metal bracket	
Voltage:	12 V DC	24 V DC
Current consumption:	100 mA	100 mA
Order No.:	**123 100 54**	**123 200 55**

↔ TECHNICAL DIAGRAM:





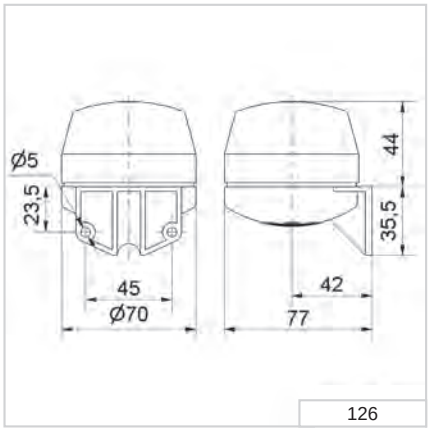
126 Electronic Multi-Tone Sounder



ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	70 mm x 79.5 mm x 77 mm
Housing:	PC/ABS-Blend
Tone types and frequencies:	4 selectable tones adjustable Continuous tone: c. 2,700 Hz Continuous tone: c. 530 Hz Bell: c. 2,700 Hz (pulse 20 Hz) Pulse tone: c. 2,700 Hz (pulse 1 Hz)
Connection:	Screw terminal 0.5 - 1.5 mm^2
Cable entry:	Cable diameter max. 9 mm
Fixing:	Wall mounting, Sound outlet facing downwards
Voltage:	12-24 V DC
Current consumption:	80 mA
Order No.:	**126 052 15**

↔ TECHNICAL DIAGRAM:



CE UK CA EAC 140 g IP33 +50°C -20°C 105 dB 4 PLC

570 Electromechanical Signal Horn

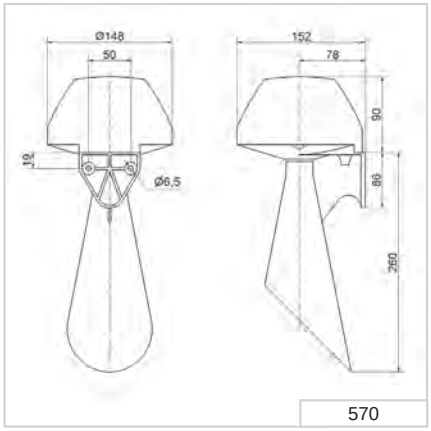


ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	148 mm x 350 mm x 152 mm			
Housing:	PC/ABS-Blend			
Connection:	Screw terminal 0.5 - 2.5 mm^2			
Fixing:	Wall mounting, Sound outlet facing downwards			
Voltage:	24 V AC (50 Hz)	42-48 V AC (50/60 Hz)	115 V AC (50/60 Hz)	230 V AC (50 Hz)
Current consumpt.:	500 mA	250 mA	200 mA	70 mA
Order No.:	**570 052 65**	**570 052 66**	**570 052 67**	**570 052 68**
Pulse tone (AC)				
Voltage:				230 V AC (50 Hz)
Current consumpt.:				≤ 70 mA
Order No.:				**570 100 68**
Continuous tone (DC)				
Voltage:	24 V DC		115 V DC	230 V DC
Current consumpt.:	350 mA		150 mA	100 mA
Order No.:	**570 052 55**		**570 052 57**	**570 052 58**

Further voltages on request.

↔ TECHNICAL DIAGRAM:





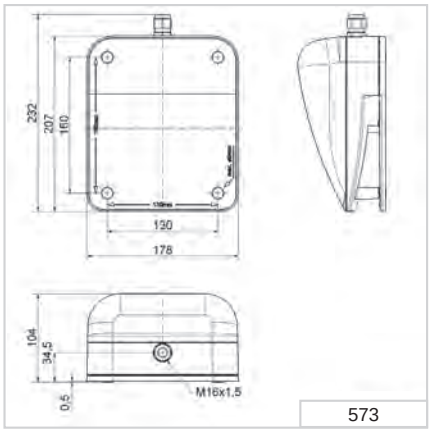
573 Electromechanical Signal Horn



ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	104 mm x 232 mm x 232 mm				
Fixing dimensions (W x H):	130 mm x 160 mm				
Housing:	PC/ABS-Blend				
Connection:	Screw terminal 0.5 - 2.5 mm^2				
Cable entry:	Cable gland M16 x 1.5 mm Cable diameter 5-10 mm				
Fixing:	Wall mounting, Sound outlet facing downwards				
Voltage:	24 V DC	24 V AC (50 Hz)	42-48 V AC (50/60 Hz)	115 V AC (50/60 Hz)	230 V AC (50 Hz)
Current consumption:	350 mA	500 mA	250 mA	200 mA	70 mA
Order No.:	**573 000 55**	**573 000 65**	**573 000 66**	**573 000 67**	**573 000 68**

↔ TECHNICAL DIAGRAM:





574 Electronic Signal Horn

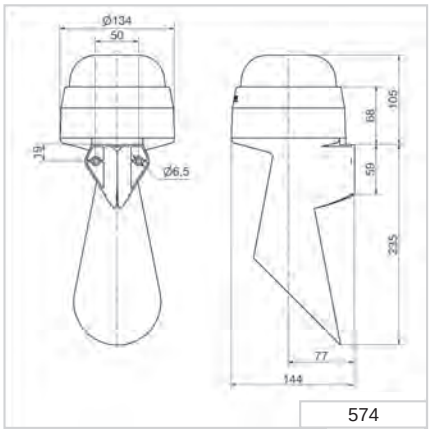


TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	134 mm x 340 mm		
Housing:	PC/ABS-Blend, grey		
Fixing:	Wall mounting, integrated mounting bracket		
Installation position:	Sound outlet facing downwards		
Connection:	Screw terminal 0.5 - 1.5 mm^2		
Cable entry:	Cable diameter max. 11 mm		
Tone frequency:	C. 110 Hz		
Life duration:	Up to 5,000 hrs		
Voltage:	24 V AC/DC	12-48 V AC/DC*	115-230 V AC
Current consumption:	55 mA	210 mA	30 mA
Order No.:	**574 000 75**	**574 000 70**	**574 000 60**

* Current consumption at 10 V / 115 V

TECHNICAL DIAGRAM:



adjustable



575 Electronic Signal Horn



Quick and simple wall mounting without additional accessories with the integrated mounting bracket

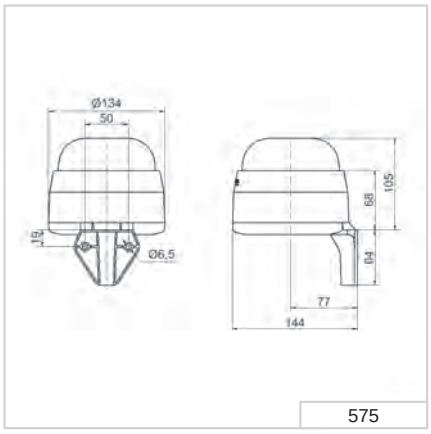


ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	134 mm x 169 mm x 144 mm		
Housing:	PC/ABS-Blend, grey		
Fixing:	Wall mounting, integrated mounting bracket		
Installation position:	Sound outlet facing downwards		
Connection:	Screw terminal 0.5 - 1.5 mm^2		
Cable entry:	Cable diameter max. 11 mm		
Tone frequency:	C. 110 Hz		
Life duration:	Up to 5,000 hrs		
Voltage:	24 V AC/DC	10-48 V AC/DC*	115-230 V AC
Current consumption:	55 mA	210 mA	30 mA
Order No.:	**575 000 75**	**575 000 70**	**575 000 60**

* Current consumption at 10 V / 115 V

↔ TECHNICAL DIAGRAM:



adjustable



Design Multi-Tone Sounder

Your benefits

WERMA Design Multi-Tone Sounders provide safety and security by providing an audible warning in applications with greater aesthetic requirements. The innovative housing design makes for simple mounting in many diverse applications.

- Ideal signalling effect over great distances
- Many application options with up to 32 tones available
- Up to 3 tones can be externally triggered for the escalation of signals
- Includes standardised tones (including those used in fire alarms)



Typical applications

- Signalling faults or alarms in the event of danger
- in building service systems
- on machinery and equipment

Installation options

- Wall mounting
- Base mounting
- Ceiling mounting

Features

- Up to 32 tones (standardised according to various standards and guidelines)
- Multi-voltage versions allow multiple applications with a single device

140 Multi-Tone Sounder





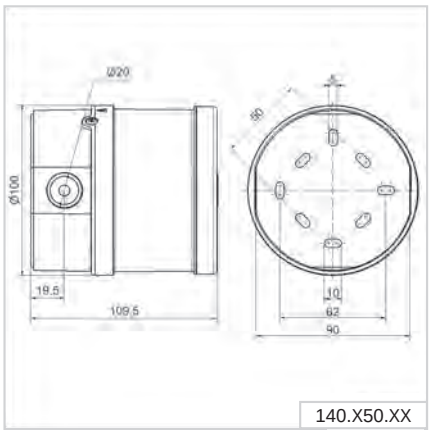
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	100 mm x 110 mm
Housing:	PC/ABS-Blend
Connection:	Screw terminal max. 2.5 mm²
Cable entry:	Cable gland M20 x 1.5 mm Cable gland not included in assembly
Tone types and frequencies:	Selectable via DIP switch, see table page 180
Installation position:	Sound outlet not facing upwards
Voltage:	9 -28 V DC
Current consumption:	≤ 120 mA
red	**140 150 50**
white	**140 950 50**
Voltage:	110-240 V AC
Current consumption:	≤ 40 mA
red	**140 150 60**
white	**140 950 60**

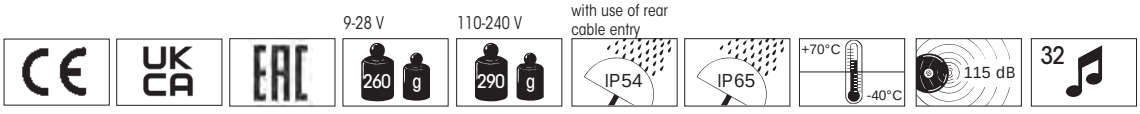
🛠 ACCESSORIES:

Cable gland M20 x 1.5 mm	**975 444 01**

↔ TECHNICAL DIAGRAM:







140 Tone table

The 140 Multi-Tone Sounder offers a large choice of internationally recognised signal tones for the widest spectrum of applications. The low voltage version allows two tones to be triggered externally. Selectable via DIP switch.

♫ TONE TYPES AND FREQUENCIES:

Tone 1 No.	Tone type	Description	Sound output (dBA) (12 V)	(24 V)	Tone 2 Low voltage
1	alternating 800/970 Hz in 2 Hz stroke	BS 5839-1: 2002	101	105	14
2	rising 800/970 Hz in 7 Hz stroke		103	107	14
3	rising 800/970 Hz in 1 Hz stroke	BS 5839-1: 2002; VdS tested	104	108	14
4	continuous 2,850 Hz		110	115	14
5	rising 2,400-2,850 Hz in 7 Hz stroke		108	114	4
6	rising 2,400-2,850 Hz in 1 Hz stroke		109	115	4
7	500-1,200 Hz rising in 3 sec., 0.5 sec OFF		100	104	14
8	falling 1,200-500 Hz in 1 Hz stroke	DIN 33404; VdS tested	99	104	14
9	alternating 2,400/2,850 Hz in 2 Hz stroke		108	115	4
10	pulse 970 Hz in 0.5 Hz stroke	Back-up-alarm BS 5839 Part 1 1988	98	105	14
11	alternating 800/970 Hz in 1 Hz stroke	BS5839 Part 1 1988	100	105	14
12	pulse 2,850 Hz in 0.5 Hz stroke		107	114	4
13	970 Hz pulse: 0.25 sec. ON / 1 sec. OFF		96	105	14
14	continuous 970 Hz	BS 5839-1: 2002	101	105	15
15	554 Hz/100 ms alternating 440 Hz/400 ms	French alarm signal AFNOR NFS 32 S 32-001	97	102	14
16	660 Hz pulse: 150 ms ON, 150 ms OFF	Swedish alarm signal	97	101	17
17	660 Hz pulse: 1.8 sec. ON, 1.8 sec. OFF	Swedish alarm signal	97	103	16
18	660 Hz pulse: 6.5 sec. ON, 13 sec. OFF	Swedish alarm signal	99	103	14
19	continuous 660 Hz	Swedish alarm signal	99	103	21
20	alternating 554/440 Hz in 0.5 Hz stroke		99	103	21
21	pulse 660 Hz in 1 Hz stroke	Swedish alarm signal	98	104	19
22	2,850 Hz pulse: 150 ms ON, 100 ms OFF	Pedestrian crossing GB	109	115	14
23	rising 800/970 Hz in 50 Hz stroke	Low frequency BS 5839 Part 1 1988	101	106	14
24	rising 2,400-2,850 Hz in 50 Hz stroke	High frequency	106	112	4
25	970 Hz pulse: 3 x 500 ms ON, 500 ms OFF, Pause 1.5 sec.	ISO 8201 Low frequency: Evacuation	101	105	26
26	2,850 Hz pulse: 3 x 500 ms ON, 500 ms OFF, Pause 1.5 sec.	ISO 8201 High frequency	109	115	25
27	970/800 Hz alternating: 1.5 s ON, 0.5 s OFF		96	105	17
28	alternating 800/970 Hz in 2 Hz stroke	FP 1063.1-Telecoms/BS 5839-1: 2002	99	105	10
29	alternating 988/645 Hz in 2 Hz stroke		99	104	988 Hz cont. tone
30	alternating 510/610 Hz in 2 Hz stroke		97	102	510 Hz cont. tone
31	falling 1,200-300 Hz in 1 Hz stroke		99	104	13
32	alternating 510/610 Hz in 1 Hz stroke		97	102	510 Hz cont. tone

144 Multi-Tone Sounder



Base Mounting



Wall mounting

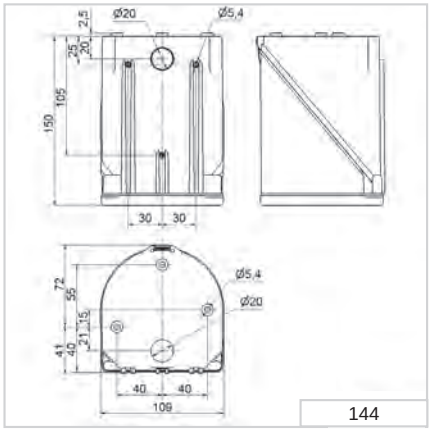
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	109 mm x 113 mm x 150 mm		
Housing:	PC/ABS-Blend		
Connection:	24 V: Screw terminal 0.5 - 1.5 mm^2 115/230 V: CAGE CLAMP®		
Cable entry:	Membrane for cable diameter max. 13 mm		
Fixing:	Wall, base and ceiling mounting		
Tone types and frequencies:	Selectable via DIP switch, see table on page 182		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption:	200 mA	55 mA	30 mA
Order No.:	**144 000 75**	**144 000 67**	**144 000 68**

🛠 ACCESSORIES:

Cable gland M20 x 1.5 mm (for cable strain relief) Protection rating IP 65 is provided even without cable gland	**975 444 01**

↔ TECHNICAL DIAGRAM:



24 V 115 V / 230 V (A) (C) 24 V

300 g 450 g IP65 +50°C -30°C 110 dB 114 dB 32 PLC

144 Tone table

The 144 Multi-Tone Sounder offers a large choice of internationally recognised signal tones for the widest spectrum of applications. 3 tones can be triggered externally.

♬ TONE TYPES AND FREQUENCIES:

Tone 1	Tone type	Frequency (Hz)	Description	Use	Tone 2	Tone 3	Output (dB)
1	continuous	200		BS 5839-1:2002	440 Hz cont.	554 Hz cont.	97
2	rising	800 & 970	7 Hz		14	800 Hz cont.	102
3	rising	800 & 970	1 Hz		14	800 Hz cont.	103
4	continuous	2850	3 s, then 0.5 s OFF (then repeat)		14	9	104
5	rising	2400 - 2850	7 Hz		4	2400 Hz cont.	109
6	rising	2400 - 2850	1 Hz		4	2400 Hz cont.	110
7	rising	500 - 1200	3 s, then 0.5 s OFF (then repeat)		14	8	106
8	falling	1200 - 500	1 Hz	DIN 33404-3	14	7	104
9	alternating	2400 & 2850	2 Hz		4	2400 Hz cont.	111
10	pulse	970	0.5 Hz (1 s On/1 s Off)	BS 5839 Part 1 1988	14	800 Hz cont.	101
11	alternating	800 & 970	1 Hz	BS 5839 Part 1 1988	14	800 Hz cont.	105
12	pulse	2850	0.5 Hz		4	22	104
13	pulse	970		0,25 s On/1 s Off	14	800 Hz cont.	98
14	continuous	970		BS 5839-1:2002 PFEER - Toxic gas	10	8	102
15	alternating	554 & 440		France NFS	14	800 Hz cont.	101
16	pulse	660	150 ms On/150 ms Off	Swedish	16	14	96
17	pulse	660	1.8 s On/1.8 s Off	Swedish	17	14	98
18	pulse	660	6.5 s On/13 s Off	Swedish	18	14	98
19	continuous	660		Swedish	19	31	98
20	alternating	554 & 440	0.5 Hz		20	19	102
21	pulse	660	1 Hz	Swedish	21	4	97
22	pulse	2850	150 ms On/100 ms Off	GB	14	4	104
23	rising	800 - 970	50 Hz (low)	BS 5839 Part 1 1988	14	800 Hz cont.	102
24	rising	2400 - 2850	50 Hz (high)		4	2400 Hz cont.	109
25	pulse	970	3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (low)	ISO 8201 US Temporal	26	14	101
26	pulse	2850	3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (high)	ISO 8201 US Temporal	25	4	104
27	continuous	4000			27	6	92
28	rising	2000 - 2850	7 Hz		2000 Hz cont.	4	111
29	alternating	988 & 645	2 Hz		988 Hz cont.	645 Hz cont.	102
30	alternating	510 & 610	2 Hz		510 Hz cont.	610 Hz cont.	102
31	alternating	800 & 970	2 Hz	5839-1:2002	800 cont.	14	105
32	alternating	800 & 1200	1 Hz		800 cont.	1200 Hz cont.	105

Vocal alarm

Your benefits

This extremely loud Vocal Alarm provides the ability to play application-specific audio files in order to produce clear and targeted instructions. It is particularly suitable for large assembly facilities and can address defined groups of people (for example, a particular work unit) in a targeted manner.

- Reliable alarm output over long distances or in noisy environments
- Easy to adjust to local conditions
- Excellent audio and sound quality for optimum clarity of signalling
- Completely flexible; select the audio file yourself

Typical applications

Signalling faults or issuing specific instructions

- For areas with high ambient noise levels
- In production and assembly environments

Installation options

- Wall mounting

Features

- Plays customer-specific audio files (sounds, melodies and your own recorded messages)
- 15 files can be played, or a sequence with a maximum of 50 files
- Simple USB data transfer
- Sound output can be externally triggered up to 110 dB



154 Vocal alarm

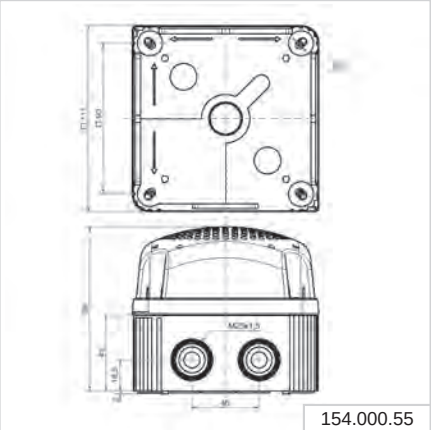


Vocal alarm 154

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	111 mm x 98 mm x 111 mm
Housing:	PP-GF, PC/ABS Blend
Sound output:	Adjustable, up to 110 dB
File Transfer:	Via USB connection and provided software
Possible data format:	mp3 and wav files
Number of sequences:	15 files can be remotely triggered or one sequence with max. 50 files
Suitable for:	Windows®, System requirements - see Handbook
Assembly:	Vocal alarm , USB connection cable and software
Voltage:	24 V DC
Current consumption:	< 500 mA Low Power < 1500 mA High Power
Order No.:	**154 000 55**

↔ TECHNICAL DIAGRAM:



154.000.55



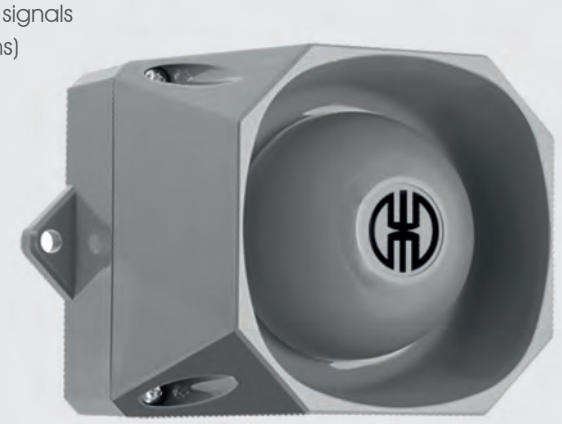
User-friendly software ensures easy transfer of audio files and simple operation

Heavy Duty Multi-Tone Sounder

Your benefits

The robust housings of WERMA Heavy Duty Multi-Tone Sounders are particularly well-suited for use in public areas or in harsh industrial environments. Versions with an aluminium housing and separate certification (German Lloyd) are available for marine applications.

- Ideal in extremely noisy environments and over long distances
- Many application options with up to 42 tones
- Up to 3 tones can be externally triggered for the escalation of signals
- Includes standardised tones (including those used in fire alarms)



Typical applications

Signalling of faults and alarms

- outdoors in extreme conditions
- in larger industrial plants
- in maritime applications

Installation options

- Wall mounting

Features

- High protection rating up to IP67
- Multi-voltage versions allow multiple applications with a single device

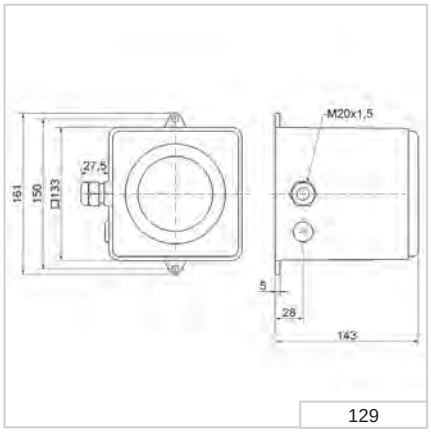
129 Electronic Multi-Tone Sounder (110 dB)

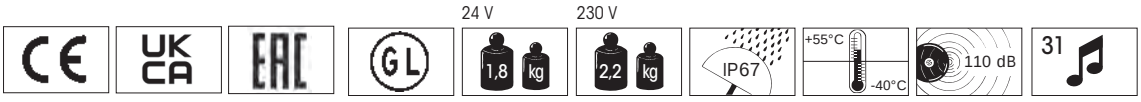


ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	143 mm x 161 mm x 161 mm		
Housing:	Die-cast aluminium		
Connection:	Screw terminal 0.5 - 2.5 mm^2		
Cable entry:	Cable gland M20 x 1.5 mm Cable diameter 8-12 mm		
Tone types and frequencies:	Selectable via DIP switch, see table page 187		
Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	400 mA	120 mA	60 mA
Order No.:	**129 052 55**	**129 052 67**	**129 052 68**

↔ TECHNICAL DIAGRAM:





129 Tone table

The 129 Multi-Tone Sounder offers a large choice of internationally recognised signal tones for the widest spectrum of applications.

♫ TONE TYPES AND FREQUENCIES:		
Tone 1+2 No.	**Tone type**	**Description**
1	falling 1,200-500 Hz in 1 Hz stroke	DIN 33404
2	950 Hz pulse: 3 x 500 ms ON, 500 ms OFF, Pause 1.5 sec.	ISO 8201
3	alternating 825 Hz/1,025 Hz in 2 Hz stroke	
4	continuous 950 Hz	
5	950 Hz pulse: 1 sec. ON, 1 sec. OFF	
6	500-1,200 Hz rising and falling in 3 sec.	Siren
7	554 Hz/100 ms alternating 440 Hz/400 ms	French fire alarm signal AFNOR NFS 32 S 32-001
8	pulse 700 Hz: 150 ms ON, 150 ms OFF, cycle 1 Min.	
9	pulse 800 Hz: 4 ms ON, 4 ms OFF	
10	continuous 500 Hz	
11	continuous 725 Hz	
12	continuous 825 Hz	
13	continuous 1,250 Hz	
14	continuous 1,500 Hz	
15	pulse 500 Hz: 500 ms ON, 500 ms OFF	
16	pulse 825 Hz: 500 ms ON, 500 ms OFF	
17	pulse 725 Hz: 0.7 sec. ON, 0.3 sec. OFF	
18	pulse 800 Hz: 0.25 sec. ON, 1 sec. OFF	
19	alternating 800 Hz/1,000 Hz in 2 Hz stroke	
20	pulse 825 Hz: 2.5 sec. ON, 2.5 sec OFF x 7, then 7 sec. pulse	
21	pulse 950 Hz: 1 sec. ON, 1 sec. OFF, 3 sec. ON, 1 sec. OFF	
22	rising 500-1,200 Hz in 3 sec., 0.5 sec OFF	
23	rising 500-2,400 Hz in 3 sec.	
24	alternating 825 Hz/1,075 Hz in 1 Hz stroke	
25	alternating 500 Hz/900 Hz in 2 Hz stroke	
26	alternating 1,200 Hz/1,400 Hz in 25 Hz stroke	
27	rising 300-1,200 Hz in 3 sec.	
28	700-1,500 Hz rising and falling in 3 sec.	
29	rising 150-1,000 Hz in 10 sec., 40 sec. ON, falling in 10 sec.	
30	pulse 680 Hz: 0.875 sec. ON, 0.875 sec. OFF	
31	rising 1,400-1,600 Hz in 1 sec., falling in 0.5 sec.	

139 Electronic Multi-Tone Sounder (105 dB)





TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	136 mm x 108 mm x 119 mm	
Housing:	ABS	
Connection:	Screw terminal 0.5 - 2.5 mm^2	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Tone types and frequencies:	Selectable via DIP switch	
Voltage:	9-60 V DC	115/230 V AC
Current consumption:	15 mA (24V)	20 mA (230 V)
red	**139 000 55**	**139 000 68**
grey	**139 100 55**	**139 100 68**

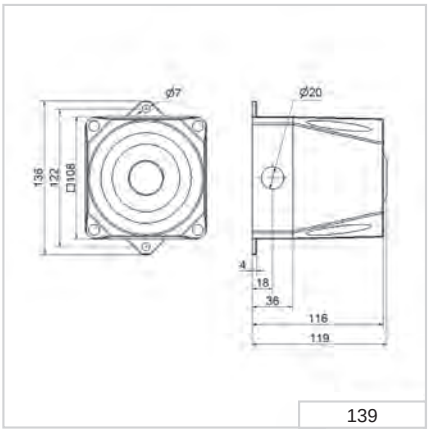
ACCESSORIES:

Cable gland M20 x 1.5 mm	**975 444 01**

TONE TYPES AND FREQUENCIES:

For further details see www.werma.com.

TECHNICAL DIAGRAM:



139

141 Electronic Multi-Tone Sounder (110 dB)





TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	165 mm x 136 mm x 132 mm	
Housing:	PC/ABS-Blend	
Connection:	Screw terminal 0.5 - 2.5 mm^2	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Tone types and frequencies:	Selectable via DIP switch	
Voltage:	9-60 V DC	115/230 V AC
Current consumption:	120 mA (24V)	22 mA (230 V)
red	**141 000 55**	**141 000 68**
grey	**141 100 55**	**141 100 68**

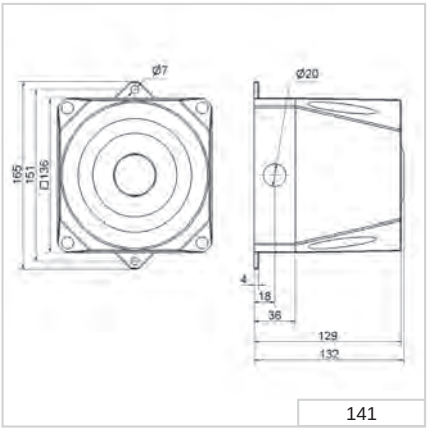
ACCESSORIES:

Cable gland M20 x 1.5 mm	**975 444 01**

TONE TYPES AND FREQUENCIES:

For further details see www.werma.com.

TECHNICAL DIAGRAM:



141





142 Electronic Multi-Tone Sounder (120 dB)



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

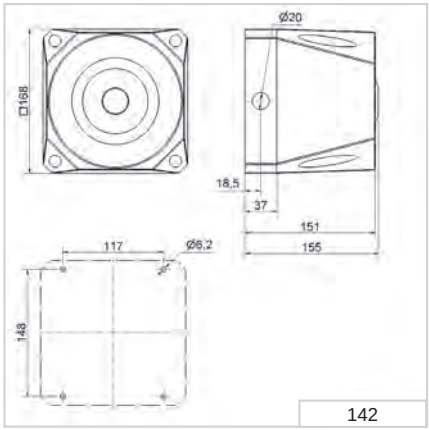
Dimensions (L x H x W):	168 mm x 168 mm x 155 mm	
Housing:	PC/ABS-Blend	
Connection:	Screw terminal 0.5 - 2.5 mm^2	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Tone types and frequencies:	Selectable via DIP switch, see table on page 197	
Voltage:	18-30 V DC	115/230 V AC
Current consumption:	450 mA	130 mA (115 V) / 65 mA (230 V)
red	**142 000 55**	**142 000 68**
grey	**142 100 55**	**142 100 68**



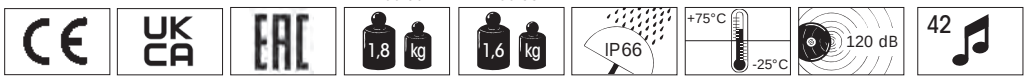
ACCESSORIES:

Cable gland M20 x 1.5 mm	**975 444 01**

TECHNICAL DIAGRAM:



142 X00 68 142 X00 55



142 Tone table

The 142 Multi-Tone Sounder offers a large choice of internationally recognised signal tones for the widest spectrum of applications. The first two tones can be freely chosen. The third tone is paired with the second tone.

♬ TONE TYPES AND FREQUENCIES:

Tone 1+2 No.	Tone type	Description	Output (dBA)	Tone 3
1	alternating 800/970 Hz in 2 Hz stroke (250 ms-250 ms)		120	14
2	rising 800/970 Hz in 7 Hz stroke (7/s)		120	14
3	rising 800/970 Hz in 1 Hz stroke (1/s)		120	14
4	continuous 2,850 Hz		111	9
5	rising 2,400-2,850 Hz in 7 Hz stroke		109	4
6	rising 2,400-2,850 Hz in 1 Hz stroke		110	4
7	500-1,200 Hz rising in 3 sec., 0.5 sec. OFF	Slow Whoop Holland	119	14
8	falling 1,200-500 Hz in 1 Hz stroke	DIN/PFEER (PAPA), DIN 33404-3, VDS tested	119	14
9	alternating 2,400/2,850 Hz in 2 Hz stroke (250 ms-250 ms)		119	14
10	pulse 970 Hz in 0.5 Hz stroke (1 sec. ON / 1 sec. OFF)	PFEER Alarm	113	4
11	alternating 800/970 Hz in 1 Hz stroke (500 ms-500 ms)		117	14
12	pulse 2,850 Hz in 0.5 Hz stroke (1 sec. ON / 1 sec. OFF)		118	144
13	970 Hz pulse: 0.25 sec. ON / 1 sec. OFF		112	14
14	continuous 970 Hz	PFEER - Toxic gas	117	8
15	554 Hz/100 ms alternating 440 Hz/400 ms	French alarm signal AFNOR NFS 32 S 32-001	118	14
16	660 Hz pulse: 150 ms ON, 150 ms. OFF	Swedish alarm signal	115	14
17	660 Hz pulse: 1.8 sec. ON, 1.8 sec. OFF	Swedish alarm signal	114	14
18	660 Hz pulse: 6.5 sec. ON, 13 sec. OFF	Swedish alarm signal	115	14
19	continuous 660 Hz	Swedish alarm signal	116	1
20	alternating 554/440 Hz in 0.5 Hz stroke (1 sec. ON / 1 sec. OFF)	Swedish alarm signal	115	19
21	pulse 660 Hz in 1 Hz stroke (500 ms-500 ms)	Swedish alarm signal	115	4
22	pulse 2,850 Hz in 4 Hz stroke (150 ms ON / 100 ms OFF		110	4
23	rising 800-970 Hz in 50 Hz stroke		117	14
24	rising 2,400-2,850 Hz in 50 Hz stroke		110	4
25	970 Hz pulse: 3 x 500 ms. ON, 500 ms OFF, break 1.5 sec.	ISO 8201 / US Temporal	118	14
26	2,850 Hz pulse: 3 x 500 ms. ON, 500 ms OFF, break 1.5 sec.	ISO 8201 / US Temporal	112	4
27	continuous 4,000 Hz		105	6
28	alternating 800/970 Hz in 2 Hz stroke (250 ms-250 ms)		118	14
29	alternating 990/650 Hz in 2 Hz stroke (250 ms-250 ms)		117	14
30	alternating 510/610 Hz in 2 Hz stroke (250 ms-250 ms)		116	14
31	rising 300-1,200 Hz in 1 Hz stroke		118	14
32	continuous Bell		117	3
33	continuous Bell: 3x500 ms. Pulse, 1.5 sec. Silence, then repeat	Bell / US Temporal	117	14
34	alternating 1,000/2,000 Hz in 1 Hz stroke (500 ms-500 ms)	Singapore	115	4
35	pulse 420 Hz (0,625 sec.)	Australian alarm signal	118	14
36	500-1,200 Hz rising in 3,75 sec., then 0,25 sec. OFF	Australian alarm signal (Evacuation)	117	14
37	rising 1,400-1,600 Hz in 1 sec., falling in 0.5 sec.	NF C 48-265	116	14
38	500-1,200 Hz rising and falling 3 sec.	Siren	117	14
39	pulse 720 Hz: 0.7 sec. ON, 0.3 sec. OFF	German industrial alarm	118	14
40	rising 422-775 Hz in 0.85 sec., 1 sec. silence, then repeat	NFPA Whoop	118	14
41	continuous 470 Hz	Horn (USA)	114	3
42	continuous 370 Hz	Air Horn (USA)	113	3

Alarm Bell

Your benefits

A signalling technology classic: The robust WERMA Alarm Bell for signalling break-time or machine activation warnings.

- Many application possibilities
- Robust housing prevents damage when used in public areas or in harsh industrial environments

Typical applications

As a bell or alarm

- Goods receiving areas
- Entry/exit applications
- Counter service call point, etc.

Installation options

- Wall mounting

Features

- High IP66 protection rating for outdoor use



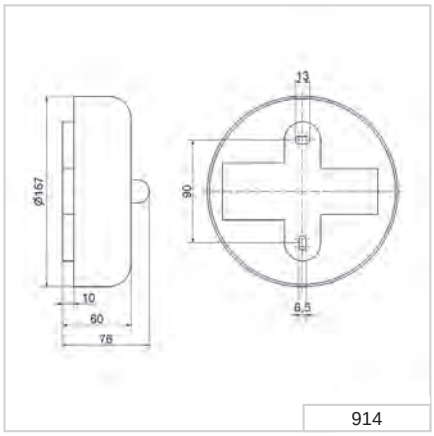
914 Alarm Bell



ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

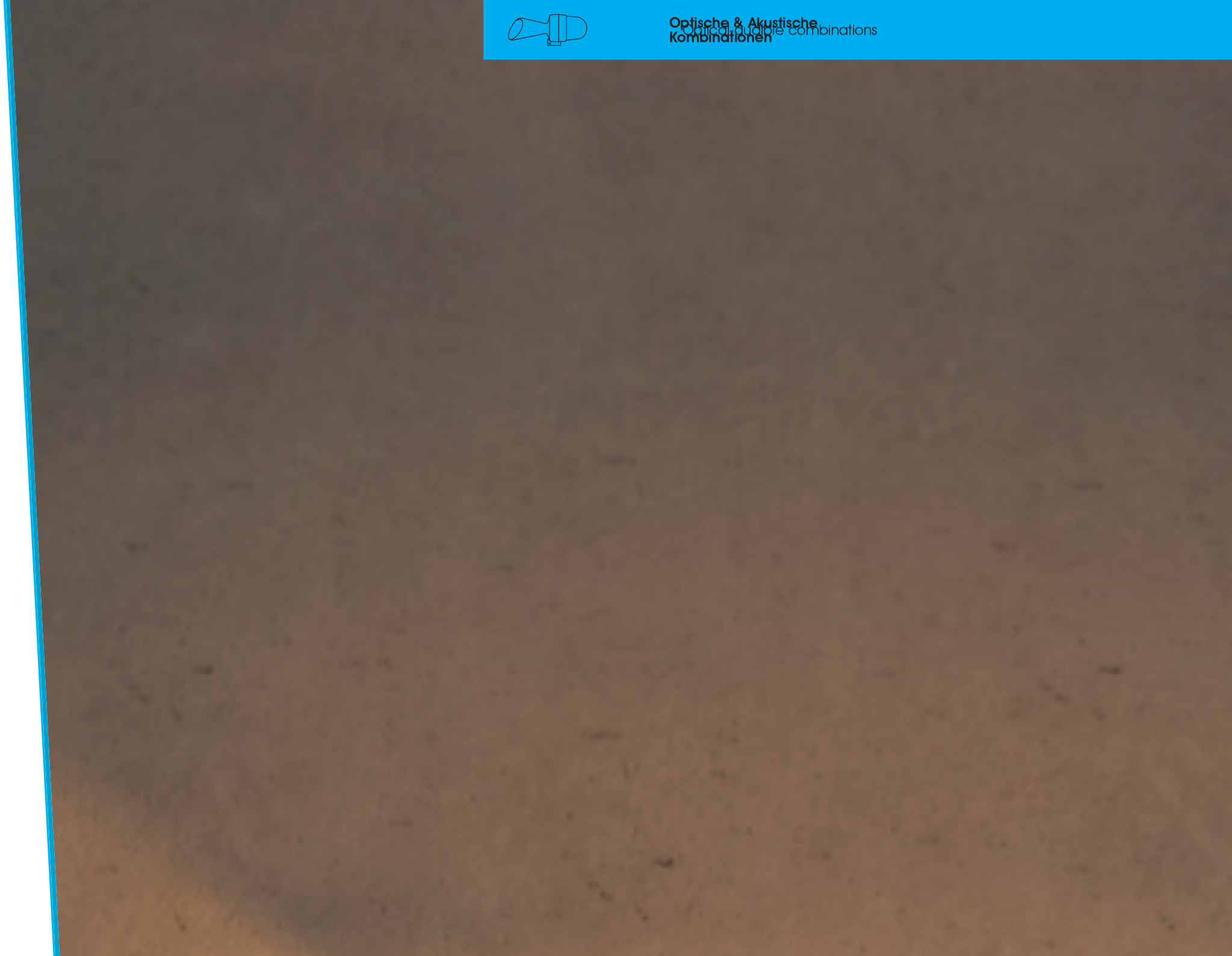
Dimensions (Ø x Depth):	167 mm x 76 mm		
Housing:	Steel bell, epoxy powder coated		
Connection:	Screw terminal max. 1.5 mm^2		
Cable entry:	Cable gland M16 x 1.5 mm Cable diameter 5-10 mm		
Voltage:	24 V DC	110 V AC (50/60 Hz)	230 V AC
Current consumption:	300 mA	90 mA	55 mA
Order No.:	**914 052 55**	**914 052 67**	**914 052 68** (50 Hz)

↔ TECHNICAL DIAGRAM:





at DC - 98 dB(A)
at AC - 100 dB(A)





Optical-audible combinations

Overview Optical and Audible Combinations

Double the safety with optical-audible signals

Large systems are often managed by only a few people, especially in automated production facilities and large machine shops. This results in optical signals not always being in the machine operator's immediate field of vision. In such cases, an audible signal may also be used. The use of both optical and audible alarms will help to counter an audible alarm not always being heard above an ambient noise level.

Overview Optical and Audible Combinations							
Product type		**Installation**	**Free-standing**	**Free-standing**	**Free-standing**	**Free-standing**	**Free-standing**
Mounting	**Product range**	**Installation Combinations**	**Evo*SIGNAL* Mini**	**Evo*SIGNAL* Midi**	**Combinations**	**Design Combinations**	**Heavy Duty Combinations**
Dimensions (Ø x Height)*		50 x 22 mm	62 x 85 mm	85 x 130 mm	146 x 171 mm 134 x 235 mm	-	
Dimensions (L x H x W)		-	-	-	134 x 407 x 144 mm	109 x 112,5 x 152 mm	136 x 138 x 119 mm 165 x 169 x 132 mm 168 x 211 x 155 mm
Voltage	12 V		●	●			●
	24 V	●	●	●	●	●	●
	60 V						●
	115 V	●	●	●	●	●	●
	230 V	●	●	●	●	●	●
Protection rating		IP65	IP66	IP66	IP65	IP65	IP66
Page		Page 198	Page 205	Page 208	Page 211	Page 217	Page 221

* Technical diagrams can be found on the product page

Variety of signals

WERMA supplies a large number of audible signals which can also be enhanced with the addition of optical light signals.

AUDIBLE SIGNALS: Sirens and Multi-Tone Sounder, Buzzer and Horns

OPTICAL SIGNALS: (LED) Permanent Light, Flashing Light, LED Double Flash Light, LED EVS Signal, LED Permanent/Flash/EVS Light

Size comparison



Series	**Evo*SIGNAL* Mini**	**Evo*SIGNAL* Midi**	**Heavy Duty 441**
Ø	62 mm	85 mm	-
Height	85 mm	130 mm	-
L x H x W	-	-	165 x 167 x 132 mm

Installation Combination Beacon with Buzzer

Your benefits

Optical audible Installation Combinations give excellent all-round visibility of the signal and are an industry standard for easy installation in control panels.

- Easy to install
- Tamper-proof when installed
- Minimal protrusion from panel for installations where space is limited
- Acknowledgement function promotes faster response time and fault repair (450 series)

Typical applications

Fault signalling

- in control panels



Installation options

- Installation mounting

Features

- High IP65 protection rating for outdoor applications
- Standard M22 for control panel installation
- Proven piezo technology for extended life duration
- Easy to connect using a plug-in connection (150)
- LED permanent light with continuous tone that can be additionally activated (150)

Size comparison Installation / Evo*SIGNAL* Mini and Midi



150 LED Permanent Light / Buzzer Combination



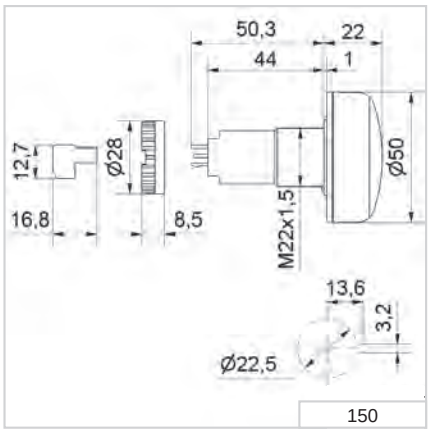
LED Permanent light with continuous tone that can be additionally activated



ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)		
Housing:	PC/ABS-Blend		
Lens:	PC, transparent		
Connection:	Connector plug with screw terminal max. 1.5 mm^2		
Tone type:	Continuous		
Tone frequency:	c. 2.8 kHz		
Duty cycle:	100 %		
Life duration:	Up to 50,000 hrs		
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm) with anti-twist device		
Nut and seal included in assembly.			
Voltage:	24 V DC	115 V AC	230 V AC
Current consumption:	< 50 mA	< 20 mA	< 20 mA
red	**150 100 55**	**150 100 67**	**150 100 68**
yellow	**150 300 55**	**150 300 67**	**150 300 68**

↔ TECHNICAL DIAGRAM:



24 V

450 LED Permanent Light/Buzzer Combination with acknowledgement function



LED Permanent light with continuous tone that can be additionally activated





The audible signal can be turned off in seconds by lightly pressing the front of the product

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	50 mm x 22 mm (Protrusion from panel)	
Housing:	PC/ABS-Blend	
Lens:	PC, transparent	
Connection:	Screw terminal 1.5 mm^2	
Signal input:	24 V DC	
Acknowledgement output:	Semiconductor-Relay	U_{max} = 30 V I_{max} = 100 mA $R_{ON\ max}$ = 25 Ohm
Tone type:	Continuous	
Tone frequency:	c. 2.8 kHz	
Duty cycle:	100 %	
Life duration:	Up to 50,000 hrs	
Fixing:	Installation mounting for Ø 22.5 mm (M22 x 1.5 mm)	
Nut and seal included in assembly.		
Voltage:	24 V DC	
Current consumption:	80 mA	
red	**450 100 55**	
yellow	**450 300 55**	

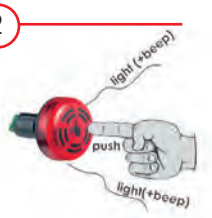
! ADDITIONAL INFORMATION:

1



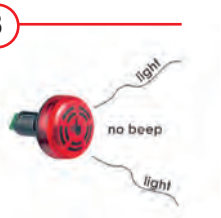
The occurrence of a malfunction or an error is indicated by means of an optical-audible signal.

2



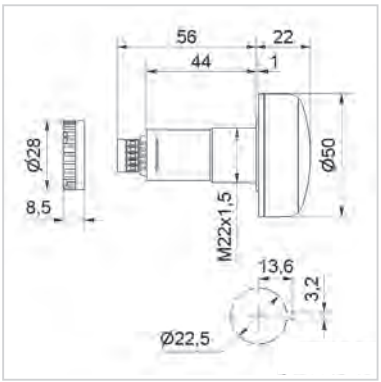
The audible signal can be turned off in seconds by lightly pressing the front of the product.

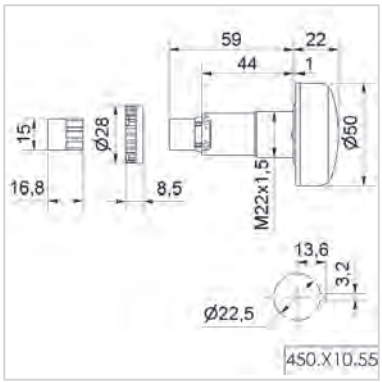
3



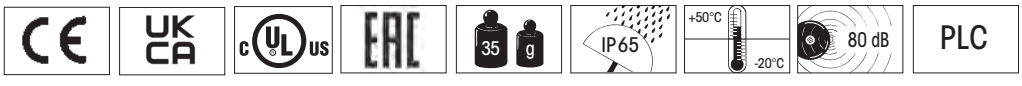
The acknowledgement signal is sent to the control unit via an electronic switch and the malfunction is now only indicated by the optical signal.

↔ TECHNICAL DIAGRAM:





450.X00.00 450.X10.55



240 LED Installation Beacon (Multicolour/MC55) with or without UL

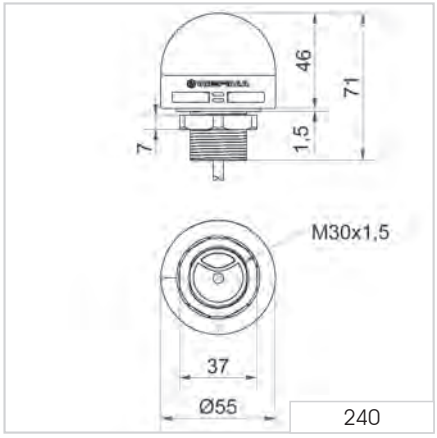




ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	55 mm x 46 mm (Protrusion from panel)			
Housing:	PC/ABS-Blend, black PC, black (version with UL)			
Lens:	PC, transparent			
Fixing:	Installation mounting M30			
Colour options:	Red, yellow, green, white, blue, violet, turquoise (Multicolour) Red, yellow, green (Tricolour)			
Light effects:	Permanent light, permanent and blinking light (1Hz) (240 130 50)			
Tone types and frequency:	Pulse tone, 3400 Hz			
Life duration LED:	Up to 50,000 hrs			
Life duration buzzer:	Up to 5,000 hrs			
Without UL	Voltage	Current consumption	Plug M12	Cable
Tricolour (RGY)	24 V DC	45 mA	**240 240 55**	**240 230 55**
Multicolour (RGB)	10-30 V DC	80 mA	**240 140 50**	**240 130 50**
Version with UL	Voltage	Current consumption	Plug M12	
Tricolour (RGY)	24 V DC	65 mA	**240 440 55**	-
Multicolour (RGB)	10-30 V DC	130 mA	**240 340 50**	-

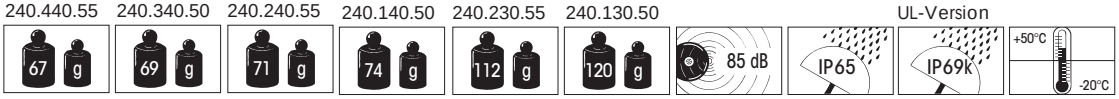
↔ TECHNICAL DIAGRAM:



240.440.55
240.340.50



240.440.55 240.340.50 240.240.55 240.140.50 240.230.55 240.130.50



UL-Version

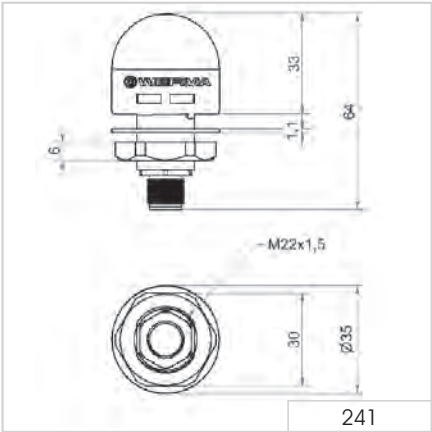
241 LED Installation Beacon (MC35) with UL



TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

Dimensions (Ø x Height):	35 mm x 64 mm (Protrusion from panel)		
Housing:	PC, black		
Lens:	PC, transparent		
Fixing:	Installation mounting M22		
Colour options:	Red, yellow, green, white, blue, violet, turquoise (Multicolour) Red, yellow, green (Tricolour)		
Light effects:	Permanent light		
Tone types and frequency:	Continuous tone, 3600 Hz		
Life duration light:	Up to 50,000 hrs		
Life duration buzzer:	Up to 5,000 hrs		
Version with UL	Voltage	Current consumption	Plug M12
Tricolour (RGY)	24 V DC	45 mA	**241 440 55**
Multicolour (RGB)	10-30 V DC	45 mA	**241 340 50**

TECHNICAL DIAGRAM



241

240 LED Installation Beacon (Multicolour/MC55 Touch)



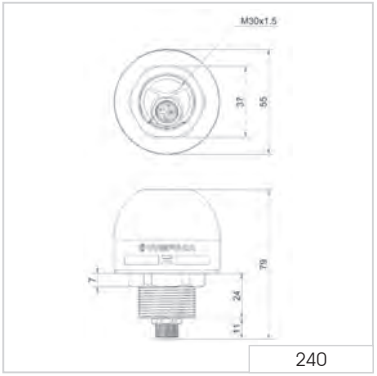


ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS				
Dimensions (Ø x Height):	55 mm x 44 mm (Protrusion from panel)			
Housing:	PC, black			
Lens:	PC, transparent			
Fixing:	Installation mounting M22			
Connection:	M12 5 Pin			
Colour options:	Red, yellow, green (Tricolour)			
Light effects:	Permanent light			
Tone types and frequency:	Continuous tone, 3480 Hz			
Output current:	max. 200 mA			
Output:	Puls Feedback			
Life duration light:	Up to 50,000 hrs			
Life duration buzzer:	Up to 5,000 hrs			
	Voltage	Current consumption	NPN	PNP
Tricolour (RGY)	24 V DC	max. 200 mA	**240 270 55**	**240 290 55**

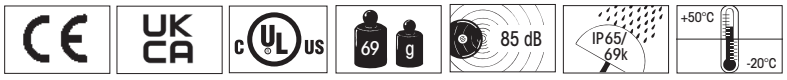
240 LED Installation Beacon (Multicolour/MC55 Touch Smart)

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS			
Dimensions (Ø x Height):	55 mm x 44 mm (Protrusion from panel)		
Housing:	PC, black		
Lens:	PC, transparent		
Fixing:	Installation mounting M22		
Connection:	M12 5 Pin		
Colour options:	Red, yellow, green, white, blue, violet, turquoise (Multicolour)		
Light effects:	Permanent, Blinking, Flashing and Pulse light		
Tone types and frequency:	10 tones (Continuous, Pulse, Sweep, Alternating)		
Output current:	max. 200 mA		
Output:	Pulse Feedback, commutation 24 V		
Life duration light:	Up to 50,000 hrs		
Life duration buzzer:	Up to 5,000 hrs		
	Voltage	Current consumption	M12 connector
Multicolour (RGY)	24 V DC	max. 200 mA	**240 170 55**

↔ TECHNICAL DIAGRAM



240



Evo*SIGNAL* - Combinations

Your benefits

The type of optical signals used depends on the application and environment. With Evo*SIGNAL*, finding the right signal device has never been so easy: Almost all areas of application are optimally covered by only two sizes (combinations) with specific mounting adapters. The new modular, simple and clear standard solution. Evo*SIGNAL* is one of a kind.

- Simple and easy to use: Number of different articles reduced to 20% whilst retaining a full range
- Twin functions: Twin*LIGHT* and Twin*FLASH* unite two light pattern functions in one element. They can be remote-controlled via connection terminals and also used as escalation levels
- Poka Yoke: Simple and intuitive installation - incorrect installation is impossible
- Mini and Midi also available as Tri*COLOUR* variants
- Maxi Twin*FLASH* can be used as an attention-grabbing alternative to xenon strobes and rotating mirror beacons

Typical applications

Signal faults and statuses on machines and equipment, in building services engineering and in door and gate applications. All products are ideal for demanding indoor and outdoor applications.

- Mini – in installation sites with limited space
- Midi – signalling over medium distances (10–30 m)

Installation options

- Base mounting
- M22/PG 29 single-hole mounting
- Tube mounting
- Bracket mounting

Features

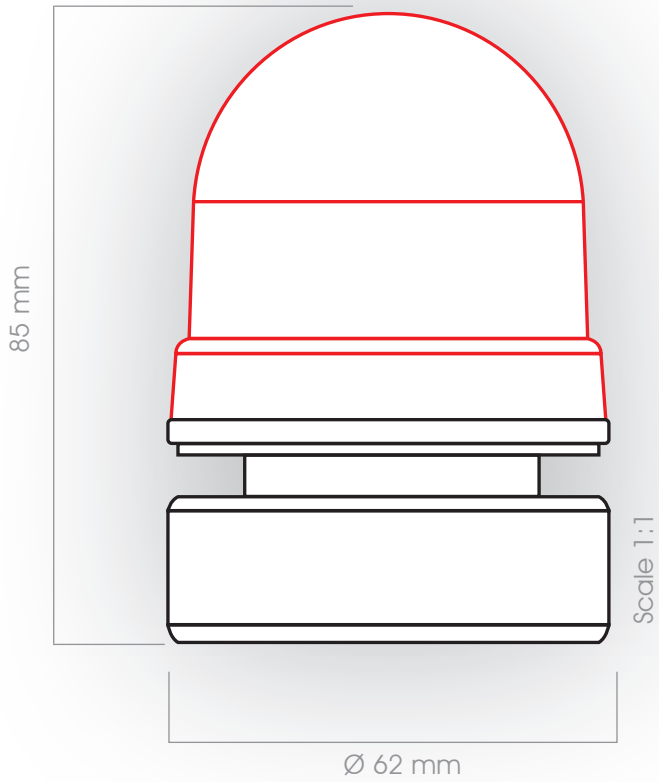
- Push-in connection terminals: Simple and permanently secure connection
- Fully compatible: Easy replacement of previous products
- Best-in-class equipment: Powerful, extremely robust (IP66), tamper-proof



Mini Midi



Evo*SIGNAL* **Mini** - Combinations



30
Twin*LIGHT*, Twin*FLASH*

6
Mounting adapter

Quick-Finder Evo*SIGNAL* **Mini** - Combinations



	12 V AC/DC		24 V AC/DC		115-230 V AC	
	Twin*LIGHT*	Twin*FLASH*	Twin*LIGHT*	Twin*FLASH*	Twin*LIGHT*	Twin*FLASH*
	Order No.	Order No.	Order No.	Order No.	Order No.	Order No.
	460 110 74	460 120 74	460 110 75	460 120 75	460 110 60	460 120 60
	460 210 74	460 220 74	460 210 75	460 220 75	460 210 60	460 220 60
	460 310 74	460 320 74	460 310 75	460 320 75	460 310 60	460 320 60
	460 410 74	460 420 74	460 410 75	460 420 75	460 410 60	460 420 60
	460 510 74	460 520 74	460 510 75	460 520 75	460 510 60	460 520 60

+ Mounting adapter (compulsory!)

Base mounting



Order no.
260 700 01

Installation mounting M22



Order no.
260 700 03

Installation mounting PG 29



Order no.
260 700 04

Tube mounting



Order no.
260 700 05

Bracket mounting with cable gland

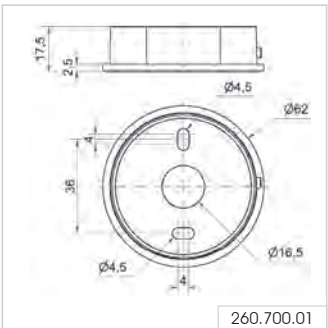


Order no.
260 700 06

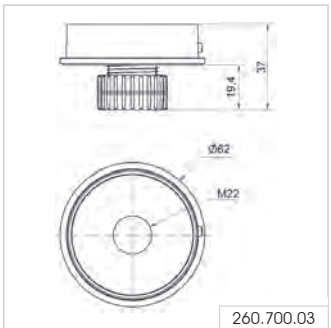
Bracket mounting



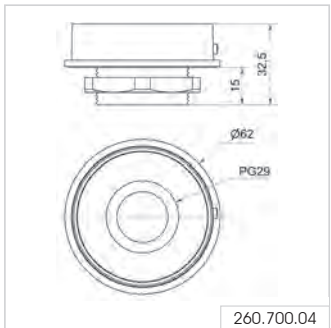
Order no.
260 700 07



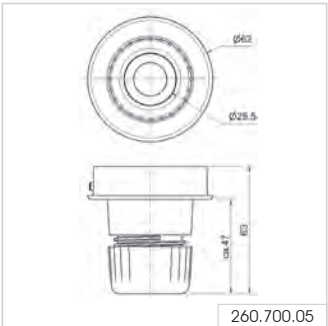
260.700.01



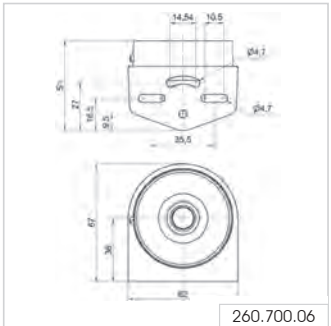
260.700.03



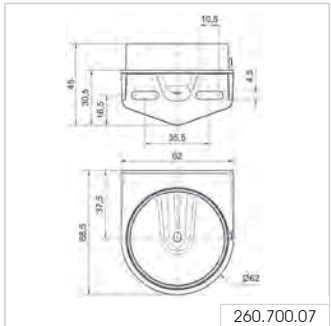
260.700.04



260.700.05



260.700.06



260.700.07

Evo*SIGNAL* **Mini** - Combinations



Installation mounting M 22



Tube mounting



Installation mounting PG 29

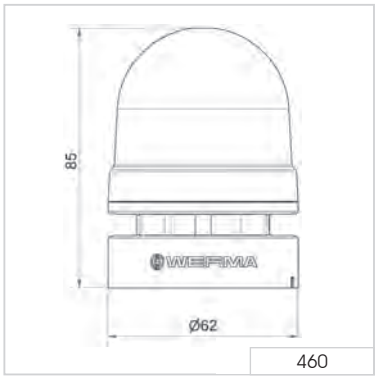
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	62 x 85 mm		
Housing:	PC/ABS		
Lens:	PC, transparent		
Connection:	Push-In terminal max. 1.5 mm²		
Cable entry:	Cable diameter 8-12 mm		
Tone type:	Continuous or Pulse tone		
Fixing:	Base/Tube/Wall/ Installation mounting		
Flashing/Blinking frequency:	1Hz		
Twin*LIGHT*			
Voltage:	12 V AC/DC	24 V AC/DC	115-230 V AC
Current consumption:	≤ 120 mA	≤ 115 mA	≤ 75 mA
red	**460 110 74**	**460 110 75**	**460 110 60**
green	**460 210 74**	**460 210 75**	**460 210 60**
yellow	**460 310 74**	**460 310 75**	**460 310 60**
white	**460 410 74**	**460 410 75**	**460 410 60**
blue	**460 510 74**	**460 510 75**	**460 510 60**
Twin*FLASH*			
Voltage:	12 V AC/DC	24 V AC/DC	115-230 V AC
Current consumption:	≤ 100 mA	≤ 115 mA	≤ 75 mA
red	**460 120 74**	**460 120 75**	**460 120 60**
green	**460 220 74**	**460 220 75**	**460 220 60**
yellow	**460 320 74**	**460 320 75**	**460 320 60**
white	**460 420 74**	**460 420 75**	**460 420 60**
blue	**460 520 74**	**460 520 75**	**460 520 60**

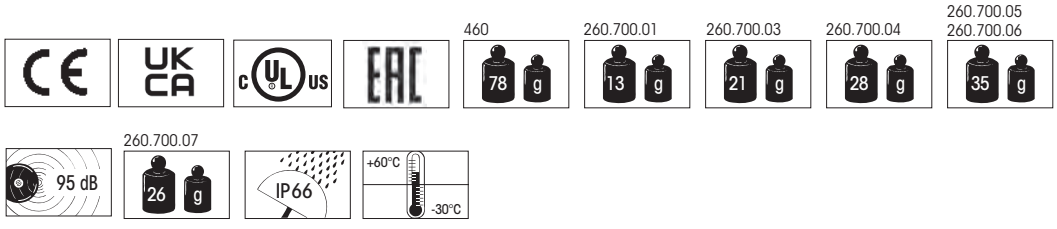
🛠 ACCESSORIES:

Base mounting	**260 700 01**
Installation mounting M22	**260 700 03**
Installation mounting PG 29	**260 700 04**
Tube mounting	**260 700 05**
Bracket mounting with cable gland	**260 700 06**
Bracket mounting	**260 700 07**

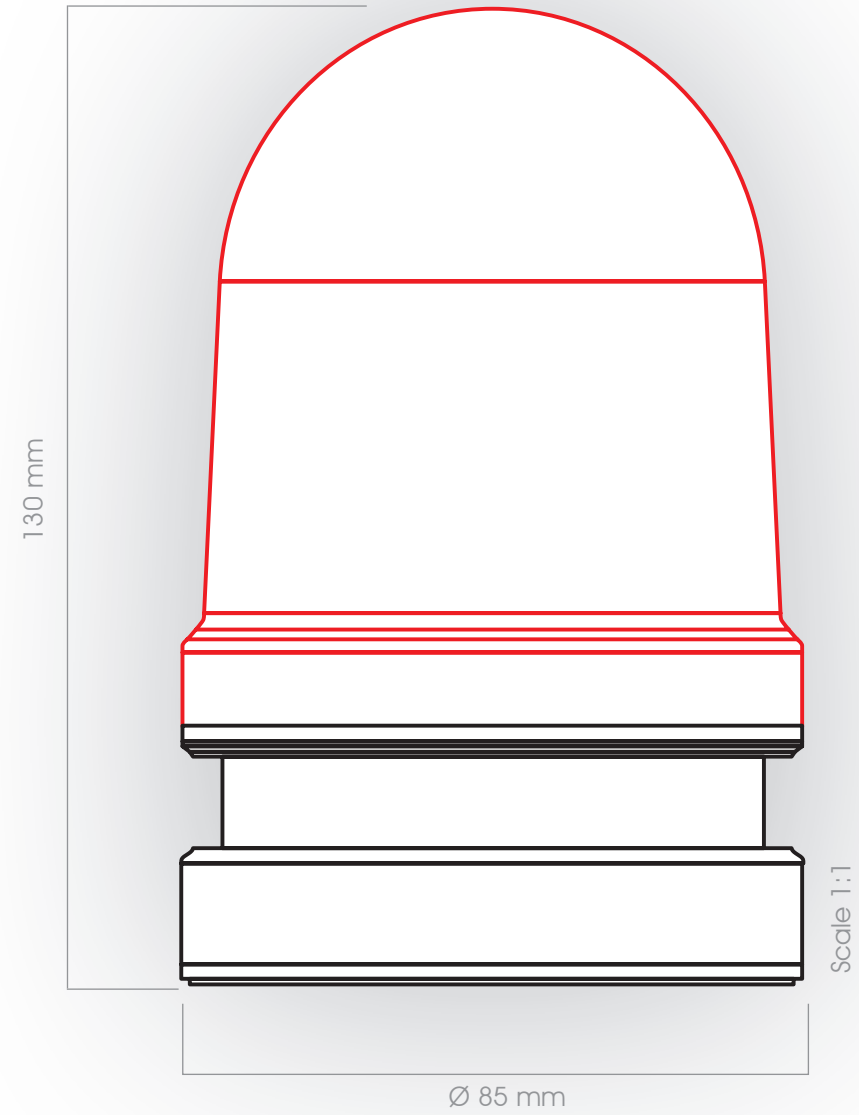
↔ TECHNICAL DIAGRAM:



460



Evo*SIGNAL* **Midi** - Combinations



20
Twin*LIGHT*, Twin*FLASH*

6
Mounting adapter

Quick-Finder Evo*SIGNAL* **Midi** - Combinations

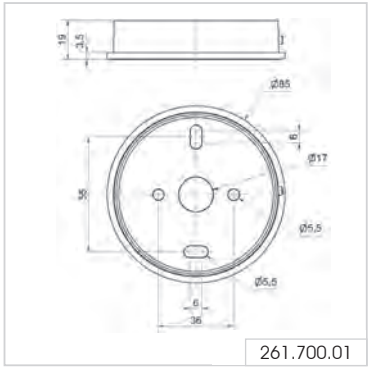


12/24 V AC/DC	
Twin*LIGHT*	Twin*FLASH*
Order No.	Order No.
461 110 70	461 120 70
461 210 70	461 220 70
461 310 70	461 320 70
461 410 70	461 420 70
461 510 70	461 520 70

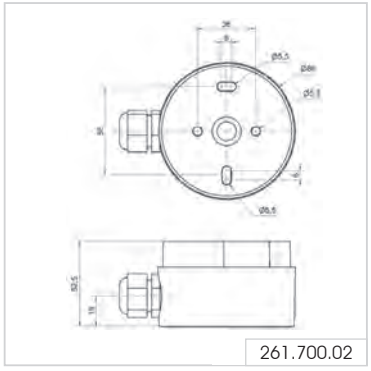
115-230 V AC	
Twin*LIGHT*	Twin*FLASH*
Order No.	Order No.
461 110 60	461 120 60
461 210 60	461 220 60
461 310 60	461 320 60
461 410 60	461 420 60
461 510 60	461 520 60

+ Mounting adapter (compulsory!)

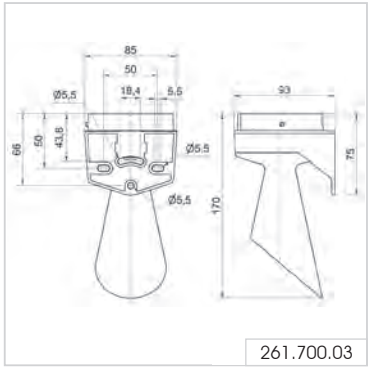
Base mounting	Base mounting with cable gland	Tube mounting	Bracket mounting with cable gland	Bracket mounting	Horn
					
Order no. 261 700 01	Order no. 261 700 02	Order no. 261 700 05	Order no. 261 700 06	Order no. 261 700 07	Order no.. 261 700 03



261.700.01



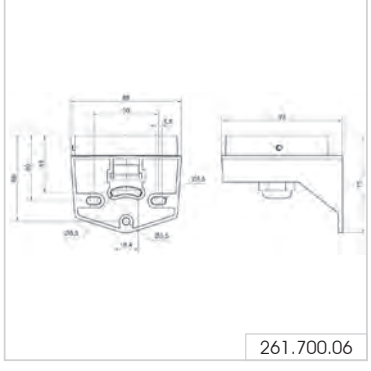
261.700.02

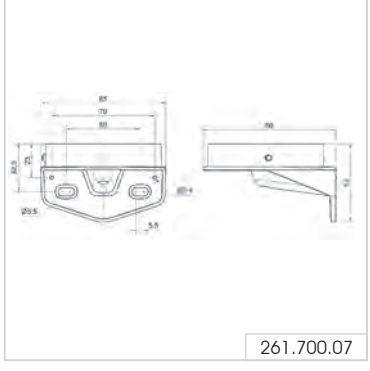


261.700.03



261.700.05


261.700.06


261.700.07

Evo*SIGNAL* **Midi** - Combinations



Horn



Bracket mounting with cable gland



Tube mounting

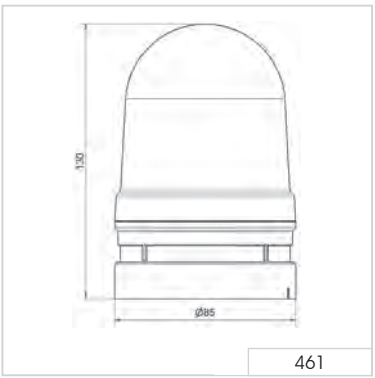
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (Ø x Height):	85 mm x 130 mm	
Housing:	PC/ABS	
Lens:	PC, transparent	
Fixing:	Base/Tube/Wall mounting	
Cable entry:	Cable diameter 8-12 mm	
Connection:	Push-In terminal max. 1.5 mm²	
Tone type:	Multi-tone, 10 tones	
Flashing/Blinking frequency:	1Hz	
Twin*LIGHT*		
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 345 mA	≤ 170 mA
red	**461 110 70**	**461 110 60**
green	**461 210 70**	**461 210 60**
yellow	**461 310 70**	**461 310 60**
white	**461 410 70**	**461 410 60**
blue	**461 510 70**	**461 510 60**
Twin*FLASH*		
Voltage:	12/24 V AC/DC	115-230 V AC
Current consumption:	≤ 110 mA	≤ 215 mA
red	**461 120 70**	**461 120 60**
green	**461 220 70**	**461 220 60**
yellow	**461 320 70**	**461 320 60**
white	**461 420 70**	**461 420 60**
blue	**461 520 70**	**461 520 60**

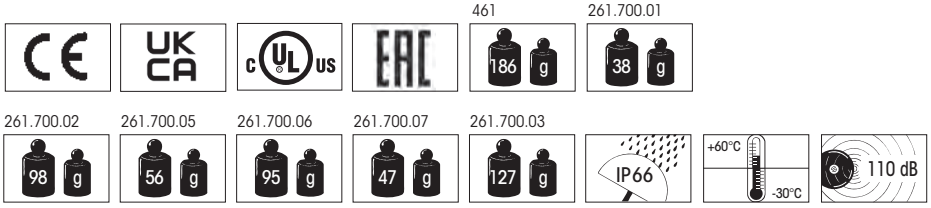
🛠 ACCESSORIES:

Base mounting	**261 700 01**
Base mounting with cable gland	**261 700 02**
Tube mounting	**261 700 05**
Bracket mounting with cable gland	**261 700 06**
Bracket mounting	**261 700 07**
Horn	**261 700 03**

↔ TECHNICAL DIAGRAM:



461



Combination LED Beacon with Multi-Tone Sounder/Horn

Your benefits

The WERMA LED Beacon with a siren or horn provides safety and security by delivering reliable fault alarms over medium distances. The IP65 protection rating is suitable for outdoor applications.

- Multiple light configurations for different purposes and distances (some with partial external triggering)
- Simple installation
- Tamper-proof when installed
- Multiple visual and audible escalation levels possible
- Clear all-round visibility thanks to the OmniVIEW lens; no blind spots
- Multi-tone siren with up to 32 tones available for maximum flexibility



Typical applications

Fault signalling

- In areas with high ambient noise levels
- On machinery and equipment
- In building service systems (e.g. gas alarm)
- In the event of e.g. overload on mobile cranes and similar

Installation options

- Base mounting
- Wall mounting
- Tube mounting

Features

- Long life and energy-saving LEDs

Size comparison Midi / Design



430/432 LED Permanent Light/ Multi-Tone Sounder Combination



LED Permanent Light in combination with Multi-Tone Sounder



Quick and simple wall mounting without additional accessories thanks to integrated mounting bracket (432)



Mounting holes integrated into the product rim allow easy mounting without having to remove the lens (430)

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

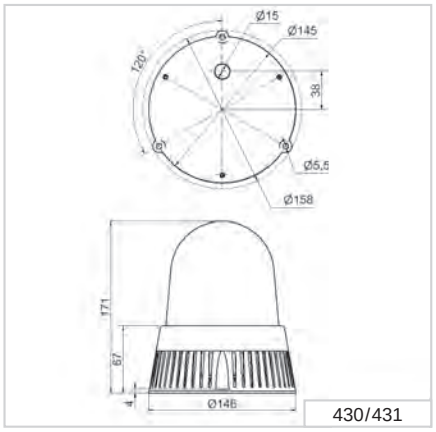
	Base mounting (430)	Wall mounting (432)
Dimensions (Ø x Height):	146 mm x 171 mm	134 mm x 235 mm
Housing:	PC/ABS-Blend, black	PC/ABS-Blend, grey
Lens:	PC, transparent	
Connection:	Screw terminal 0.5-1.5 mm²	
Cable entry:	Cable diameter max. 13 mm	
Tone type and frequency:	32 tones adjustable, see table on page 214	
Life duration:	Up to 50,000 hrs (LED), up to 5,000 hrs (Multi-tone Sounder)	
Installation position:	Sound outlet facing downwards	
Fixing:	Base mounting (430), Wall mounting (432) Tube mounting (accessory, only for 430)	
Voltage:	24 V AC/DC	115-230 V AC*
Current consumption MTS:	190 mA	55 mA
Current consumption LED:	350 mA 230 mA (red)	100 mA 80 mA (red)
Base mounting		
red	**430 100 75**	**430 100 60**
yellow	**430 300 75**	**430 300 60**
Wall mounting		
red	**432 100 75**	**432 100 60**
yellow	**432 300 75**	**432 300 60**

*Current consumption at 115 V

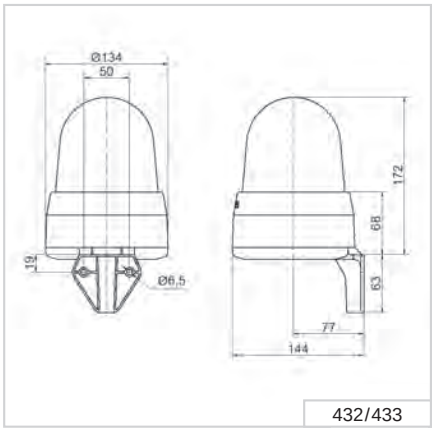
🛠 ACCESSORIES:

Adaptor for tube mounting, plastic, for tube Ø 25 mm	**975 430 01**

↔ TECHNICAL DIAGRAMS:



430/431



432/433



431/433 LED Permanent/Flashing/EVS/ Multi-Tone Sounder Combination



Multi-functional LED beacon: 3 light effects can be externally triggered



The adaptor enables mounting on a tube (431)

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

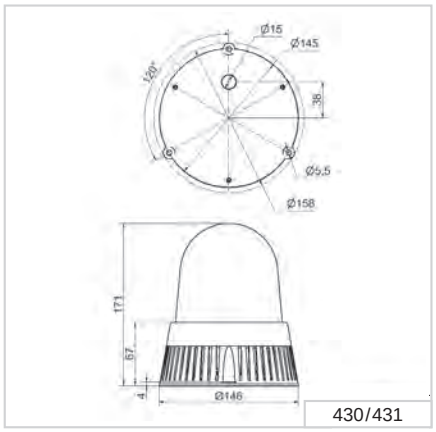
	Base mounting (431)	Wall mounting (433)
Dimensions (Ø x Height):	146 mm x 171 mm	134 mm x 235 mm
Housing:	PCABS-Blend, black	PC/ABS-Blend, grey
Lens:	PC, transparent	
Connection:	Screw terminal 0.5-1.5 mm^2	
Cable entry:	Cable diameter max. 13 mm	
Tone type and frequency:	32 tones adjustable, see table on page 214	
Installation position:	Sound outlet facing downwards	
Life duration:	Up to 50,000 hrs (LED), up to 5,000 hrs (Multi-tone Sounder)	
Fixing:	Base mounting (431), Wall mounting (433) Tube mounting (accessory, only for 431)	
Voltage:	24 V AC/DC	115-230 V AC*
Current consumption MTS:	190 mA	55 mA
Current consumption LED:	350 mA 230 mA (red)	100 mA 80 mA (red)
Base mounting		
red	**431 100 75**	**431 100 60**
yellow	**431 300 75**	**431 300 60**
Wall mounting		
red	**433 100 75**	**433 100 60**
yellow	**433 300 75**	**433 300 60**

*Current consumption at 115 V

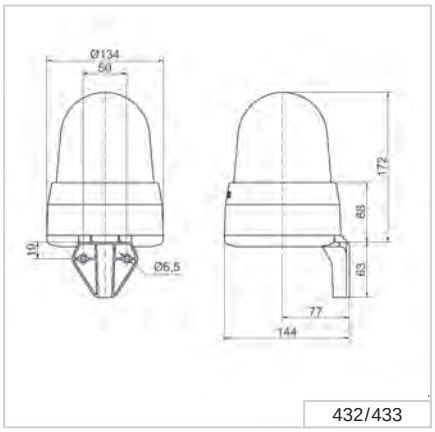
🛠 ACCESSORIES:

Adaptor for tube mounting, plastic, for tube Ø 25 mm	**975 430 01**

↔ TECHNICAL DIAGRAMS:



430/431



432/433

525 g | IP65 | +50°C -30°C | 108 dB | 32

43 x Tone table for Multi-Tone Sounder

The Multi-Tone Sounder Combinations 43x offer a large choice of internationally recognised signal tones for the widest range of applications. The tone types and frequencies can be found in the table below:

♫ TONE TYPES AND FREQUENCIES:

Tone 1	Tone type	Frequency (Hz)	Description	Use	Tone 2	Sound output (dbA)
1	continuous	200		BS 5839-1:2002	440 Hz cont.	97
2	rising	800 & 970	7 Hz		14	102
3	rising	800 & 970	1 Hz		14	103
4	continuous	2850			14	104
5	rising	2400 - 2850	7 Hz		4	109
6	rising	2400 - 2850	1 Hz		4	110
7	rising	500 - 1200	3 s, then 0.5 s OFF (then repeat)		14	106
8	falling	1200 - 500	1 Hz	DIN 33404-3	14	104
9	alternating	2400 & 2850	2 Hz		4	111
10	pulse	970	0.5 Hz (1 s On/1 s Off)	BS 5839 Part 1 1988	14	101
11	alternating	800 & 970	1 Hz	BS 5839 Part 1 1988	14	105
12	pulse	2850	0.5 Hz		4	104
13	pulse	970		0,25 s On/1 s Off	14	98
14	continuous	970		BS 5839-1:2002 PFEER - Toxic gas	10	102
15	alternating	554 & 440		France NFS	14	101
16	pulse	660	150 ms On/150 ms Off	Swedish	16	96
17	pulse	660	1.8 s On/1.8 s Off	Swedish	17	98
18	pulse	660	6.5 s On/13 s Off	Swedish	18	98
19	continuous	660		Swedish	19	98
20	alternating	554 & 440	0.5 Hz		20	102
21	pulse	660	1 Hz	Swedish	21	97
22	pulse	2850	150 ms On/100 ms Off	GB	14	104
23	rising	800 - 970	50 Hz (low)	BS 5839 Part 1 1988	14	102
24	rising	2400 - 2850	50 Hz (high)		4	109
25	pulse	970	3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (low)	ISO 8201 US Temporal	26	101
26	pulse	2850	3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (high)	ISO 8201 US Temporal	25	104
27	continuous	4000			27	92
28	rising	2000 - 2850	7 Hz		2000 Hz cont.	111
29	alternating	988 & 645	2 Hz		988 Hz cont.	102
30	alternating	510 & 610	2 Hz		510 Hz cont.	102
31	alternating	800 & 970	2 Hz	5839-1:2002	800 Hz cont.	105
32	alternating	800 & 1200	1 Hz		800 Hz cont.	105

434 LED Permanent Light / Horn Combination



Award winning design Winner of the iF product design award 2012



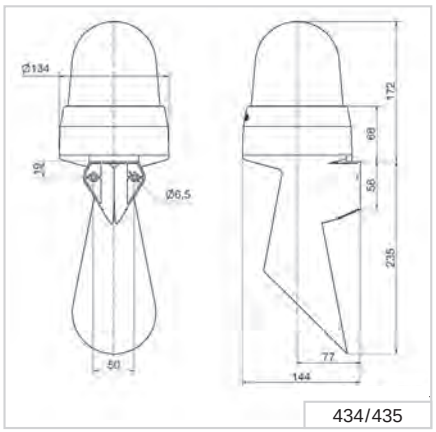
Quick and simple wall mounting without additional accessories thanks to integrated mounting bracket

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	134 mm x 407 mm x 144 mm	
Housing:	PC/ABS-Blend, grey	
Lens:	PC, transparent	
Connection:	Screw terminal 0.5-1.5 mm²	
Cable entry:	Cable diameter max. 13 mm	
Tone frequency:	c. 110 Hz	
Life duration:	Up to 50,000 hrs (LED), up to 5,000 hrs (Horn)	
Fixing:	Wall mounting, integrated mounting bracket	
Installation position:	Sound outlet facing downwards	
Voltage:	24 V AC/DC	115-230 V AC*
Current consumption MTS:	55 mA	30 mA
Current consumption LED:	350 mA 230 mA (red)	100 mA 80 mA (red)
red	**434 100 75**	**434 100 60**
yellow	**434 300 75**	**434 300 60**

*Current consumption at 115 V

↔ TECHNICAL DIAGRAMS:



434/435





435 LED Permanent/Flashing/EVS/Horn Combination



Multi-functional LED beacon:
3 light effects can be triggered externally



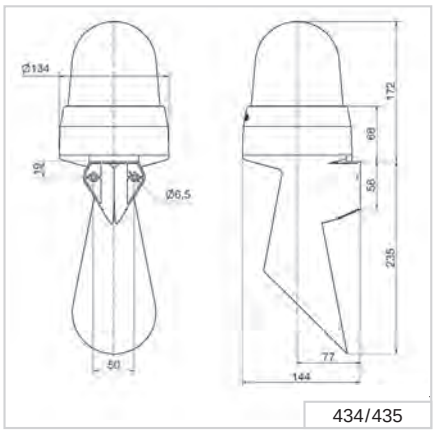
The "EVS" light effect ensures a maximum attention-grabbing effect

ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	134 mm x 407 mm x 144 mm	
Housing:	PC/ABS-Blend, grey	
Lens:	PC, transparent	
Connection:	Screw terminal 0.5-1.5 mm^2	
Cable entry:	Cable diameter max. 13 mm	
Tone frequency:	c. 110 Hz	
Life duration:	Up to 50,000 hrs (LED), up to 5,000 hrs (Horn)	
Fixing:	Wall mounting, integrated mounting bracket	
Installation position:	Sound outlet facing downwards	
Voltage:	24 V AC/DC	115-230 V AC*
Current consumption MTS:	55 mA	30 mA
Current consumption LED:	350 mA 220 mA (red)	100 mA 80 mA (red)
red	**435 100 75**	**435 100 60**
yellow	**435 300 75**	**435 300 60**

*Current consumption at 115 V

↔ TECHNICAL DIAGRAMS:



434/435

Design Combination LED Multi-Tone Sirens

Your benefits

The Design Combination LED Multi-Tone Sirens provide safety and security in environments with heightened aesthetic design requirements. The innovative housing design makes for simple mounting in many diverse applications.

- Ideal signalling effect over great distances
- Multiple visual and audible escalation levels possible
- Many application options with up to 32 tones available
- Up to 3 tones controlled remotely for the escalation of signals
- Includes standardised tones (including those used in fire alarms)



Typical applications

Fault signalling

- In building service systems
- On machinery and equipment

Installation options

- Wall mounting
- Base mounting
- Ceiling mounting

Features

- Multi-voltage versions allow multiple applications with a single device
- Long life and energy-saving LEDs, either as a flashing light or EVS

Size comparison Design / Heavy Duty



444 LED Double Flash/Multi-Tone Sounder Combination



Base mounting



Wall mounting

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	109 mm x 112 mm x 150 mm		
Housing:	PC/ABS-Blend		
Lens:	PC, transparent		
Connection:	24 V: Screw terminal 0.5-1.5 mm² 115/230 V: CAGE CLAMP®		
Cable entry:	Membrane for cable diameter max. 13 mm		
Life duration:	Up to 50,000 hrs (LED Double Flash)		
Flash frequency:	c. 1 Hz		
Fixing:	Wall, base and ceiling mounting		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption Optical:	60 mA	30 mA	30 mA
Current consumption Audible:	200 mA	55 mA	30 mA
red	**444 100 75**	**444 100 67**	**444 100 68**
yellow	**444 300 75**	**444 300 67**	**444 300 68**

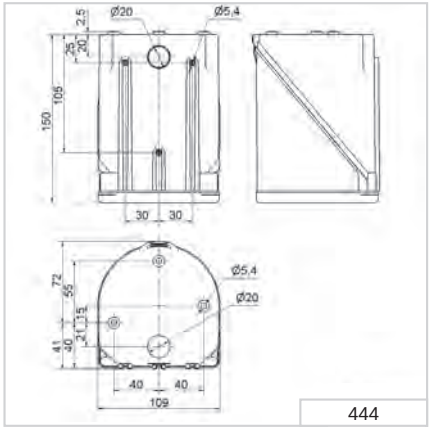
ACCESSORIES:

Cable gland M20 x 1.5 mm (for cable strain relief) Protection rating IP 65 is guaranteed even without cable gland	**975 444 01**

TONE TYPES AND FREQUENCIES:

Selectable via DIP switch, see tone table on page 230, 3 tones can be externally triggered

TECHNICAL DIAGRAMS:



444

24 V | 115 V / 230 V | (A) | 24 V

330 g | 470 g | IP65 | +50°C -30°C | 110 dB | 32 | PLC

444 LED EVS/Multi-Tone Sounder Combination



Base mounting



The „EVS" light effect ensures a maximum attention-grabbing effect

TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	109 mm x 112 mm x 150 mm		
Housing:	PC/ABS-Blend		
Lens:	PC, transparent		
Connection:	24 V: Screw terminal 0.5-1.5 mm² 115/230 V: CAGE CLAMP®		
Cable entry:	Membrane for cable diamter max. 13 mm		
Fixing:	Wall, base and ceiling mounting		
Life duration:	Up to 50,000 hrs (LED EVS)		
Voltage:	24 V AC/DC	115 V AC	230 V AC
Current consumption Optical:	60 mA	30 mA	30 mA
Current consumption Audible:	220 mA	55 mA	30 mA
red	**444 110 75**	**444 110 67**	**444 110 68**
yellow	**444 310 75**	**444 310 67**	**444 310 68**

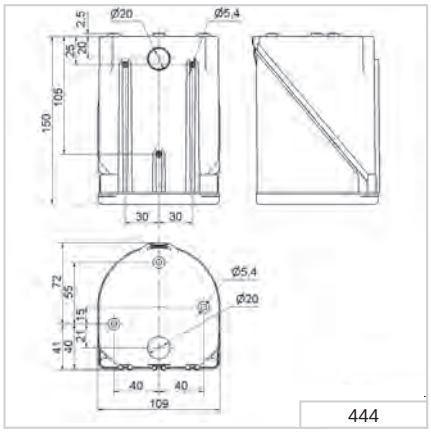
ACCESSORIES:

Cable gland M20 x 1.5 mm (for cable strain relief) Protection rating IP 65 is guaranteed even without cable gland	**975 444 01**

TONE TYPES AND FREQUENCIES:

Selectable via DIP switch, see tone table on page 220, 3 tones can be externally triggered

TECHNICAL DIAGRAMS:



444

24 V | 115 V / 230 V

330 g | 470 g | IP65 | +50°C -30°C | 110 dB | 32 | 24 V PLC

444 Combination

The 444 Combinations offer a large choice of internationally recognised signal tones for the widest spectrum of applications. 3 tones can be triggered externally.

TONE TYPES AND FREQUENCIES:

Tone 1	Tone type	Frequency (Hz)	Description	Use	Tone 2	Sound output (dbA)
1	continuous	200		BS 5839-1:2002	440 Hz cont.	97
2	rising	800 & 970	7 Hz		14	102
3	rising	800 & 970	1 Hz		14	103
4	continuous	2850			14	104
5	rising	2400 - 2850	7 Hz		4	109
6	rising	2400 - 2850	1 Hz		4	110
7	rising	500 - 1200	3 s, then 0.5 s OFF (then repeat)		14	106
8	falling	1200 - 500	1 Hz	DIN 33404-3	14	104
9	alternating	2400 & 2850	2 Hz		4	111
10	pulse	970	0.5 Hz (1 s On/1 s Off)	BS 5839 Part 1 1988	14	101
11	alternating	800 & 970	1 Hz	BS 5839 Part 1 1988	14	105
12	pulse	2850	0.5 Hz		4	104
13	pulse	970		0,25 s On/1 s Off	14	98
14	continuous	970		BS 5839-1:2002 PFEER - Toxic gas	10	102
15	alternating	554 & 440		France NFS	14	101
16	pulse	660	150 ms On/150 ms Off	Swedish	16	96
17	pulse	660	1.8 s On/1.8 s Off	Swedish	17	98
18	pulse	660	6.5 s On/13 s Off	Swedish	18	98
19	continuous	660		Swedish	19	98
20	alternating	554 & 440	0.5 Hz		20	102
21	pulse	660	1 Hz	Swedish	21	97
22	pulse	2850	150 ms On/100 ms Off	GB	14	104
23	rising	800 - 970	50 Hz (low)	BS 5839 Part 1 1988	14	102
24	rising	2400 - 2850	50 Hz (high)		4	109
25	pulse	970	3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (low)	ISO 8201 US Temporal	26	101
26	pulse	2850	3 x 500 ms ON/500 ms OFF / 1.5 s silence, then repeat (high)	ISO 8201 US Temporal	25	104
27	continuous	4000			27	92
28	rising	2000 - 2850	7 Hz		2000 Hz cont.	111
29	alternating	988 & 645	2 Hz		988 Hz cont.	102
30	alternating	510 & 610	2 Hz		510 Hz cont.	102
31	alternating	800 & 970	2 Hz	5839-1:2002	800 cont.	105
32	alternating	800 & 1200	1 Hz		800 cont.	105

Heavy Duty Combination – Multi-Tone Siren with Xenon Flash

Your benefits

The WERMA Heavy Duty Combination - Multi-Tone Siren with Xenon Flash features a very robust housing. The combination device provides safety and security through reliable, loud signalling in particularly harsh environments. Up to 120 dB for use in extremely noisy environments and signalling over long distances.

- Multiple visual and audible escalation levels possible
- Includes standardised tones (including those used in fire alarms)
- Up to 42 tones for signalling various statuses

Typical applications

Signalling of faults or alarms

- Outdoors in extreme conditions
- In larger industrial plants
- As an evacuation alarm



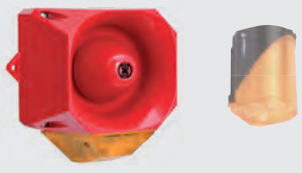
Installation options

- Wall mounting

Features

- High protection rating IP66
- Multi-voltage versions available

Size comparison Heavy Duty / Design



439 Xenon Flash/Multi-Tone Sounder Combination (105 dB)





TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	136 mm x 138 mm x 119 mm	
Housing:	ABS	
Connection:	Screw terminal 0.28-2.5 mm²	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Flash frequency:	1 Hz	
Flash energy	1.6 Ws	
Tone type and frequency:	Selectable via DIP switch, 2 tones can be externally triggered	
Voltage:	9-60 V DC	110-230 V AC
Current consumption: Housing/Flash	230 mA (24 V)	30 mA (230 V)
red / red	**439 010 55**	**439 010 68**
red / yellow	**439 030 55**	**439 030 68**
grey / red	**439 110 55**	**439 110 68**
grey / yellow	**439 130 55**	**439 130 68**

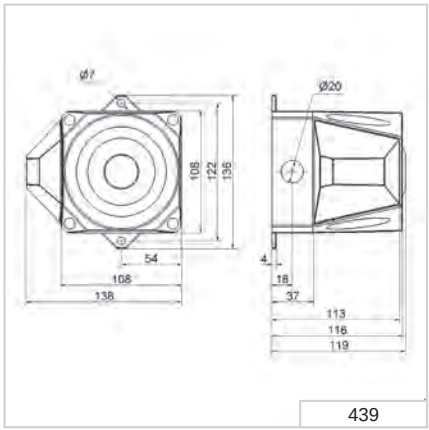
ACCESSORIES:

Cable gland M20 x 1.5 mm (for cable strain relief) Protection rating IP 65 is guaranteed even without cable gland	**975 444 01**

TONE TYPES AND FREQUENCIES:

For further details see www.werma.com.

TECHNICAL DIAGRAMS:



439

441 Xenon Flash/Multi-Tone Sounder Combination (110 dB)





TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	165 mm x 169 mm x 132 mm	
Housing:	PC/ABS-Blend	
Connection:	Screw terminal 0.28-2.5 mm^2	
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)	
Flash frequency:	1 Hz	
Flash energy	2.5 Ws	
Tone type and frequency:	Selectable via DIP switch, 2 tones can be externally triggered	
Voltage:	9-60 V DC	230 V AC
Current consumption: Housing/Flash	230 mA	35 mA
red / red	**441 010 55**	**441 010 68**
red / yellow	**441 030 55**	**441 030 68**
grey / red	**441 110 55**	**441 110 68**
grey / yellow	**441 130 55**	**441 130 68**

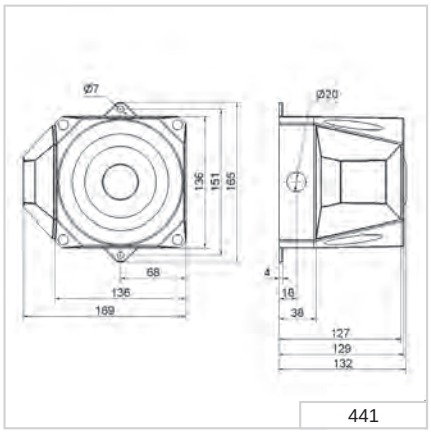
ACCESSORIES:

Cable gland M20 x 1.5 mm (for cable strain relief) Protection rating IP 65 is guaranteed even without cable gland	**975 444 01**

TONE TYPES AND FREQUENCIES:

For further details see www.werma.com.

TECHNICAL DIAGRAMS:



442 Xenon Flash / Multi-Tone Sounder Combination (120 dB)





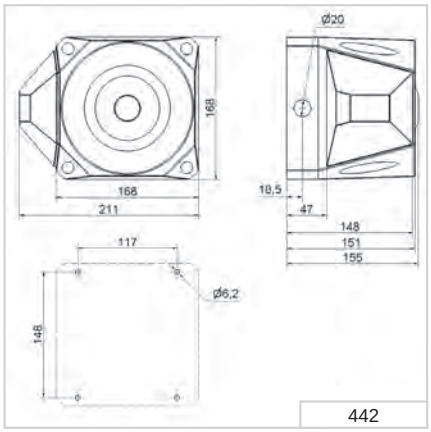
TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS:

Dimensions (L x H x W):	168 mm x 211 mm x 155 mm		
Housing:	PC/ABS-Blend		
Connection:	Screw terminal 0.28-2.5 mm²		
Cable entry:	Cable gland M20 x 1.5 mm (not included in assembly)		
Tone type and frequency:	Selectable via DIP switch, 3 tones externally triggered see table on page 221		
Voltage:	18-30 V DC		115/230 V AC
Current cons. Multi Tone Sounder:	450 mA		130/65 mA
Current consumption Flash:	127-389 mA (dependent on voltage and flash frequency)		– /15 mA (dependent on voltage and flash frequency)
Flash frequency	0.75 Hz/1 Hz	1.25 Hz/2 Hz	1 Hz (Flash can only be operated with 230 V)
Flash energy Housing/Flash	3.5 Ws	2 Ws	2 Ws
red / red	**442 010 55**		**442 010 68**
red / yellow	**442 030 55**		**442 030 68**
grey / red	**442 110 55**		**442 110 68**
grey / yellow	**442 130 55**		**442 130 68**

ACCESSORIES:

Cable gland M20 x 1.5 mm (for cable strain relief) Protection rating IP 65 is guaranteed even without cable gland	**975 444 01**

TECHNICAL DIAGRAMS:



442 XX0 55 442 XX0 68

442 Combination

The Flash/Multi-Tone Sounder Combination 442 offers a large choice of internationally recognised signal tones for the widest spectrum of applications. 3 tones can be triggered externally. The first two tones can be freely chosen. The third tone is paired with the second tone.

♫ TONE TYPES AND FREQUENCIES:

Tone 1+2 No	Tone type	Use	Output (dbA)	Tone 3
1	alternating 800/970 Hz in 2 Hz stroke (250 ms-250 ms)		120	14
2	rising 800/970 Hz in 7 Hz stroke (7/s)		120	14
3	rising 800/970 Hz in 1 Hz stroke (1/s)		120	14
4	continuous 2,850 Hz		111	9
5	rising 2,400-2,850 Hz in 7 Hz stroke		109	4
6	rising 2,400-2,850 Hz in 1 Hz stroke		110	4
7	500-1,200 Hz rising in 3 sec., 0.5 sec. OFF	Slow Whoop Holland	119	14
8	falling 1,200-500 Hz in 1 Hz stroke	DIN/PFEER (PAPA), DIN 33404-3, VDS tested	119	14
9	alternating 2,400/2,850 Hz in 2 Hz stroke (250 ms-250 ms)		113	4
10	pulse 970 Hz in 0.5 Hz stroke (1 sec. ON / 1 sec. OFF)	PFEER Alarm	117	14
11	alternating 800/970 Hz in 1 Hz stroke (500 ms-500 ms)		118	14
12	pulse 2,850 Hz in 0.5 Hz stroke (1 sec. ON / 1 sec. OFF)		112	4
13	970 Hz pulse: 0.25 sec. ON / 1 sec. OFF		117	14
14	continuous 970 Hz	PFEER - Toxic gas	118	8
15	554 Hz/100 ms alternating 440 Hz/400 ms	French alarm signal AFNOR NFS 32S 32-001	115	14
16	660 Hz pulse: 150 ms ON, 150 ms. OFF	Swedish alarm signal	114	14
17	660 Hz pulse: 1.8 sec. ON, 1.8 sec. OFF	Swedish alarm signal	115	14
18	660 Hz pulse: 6.5 sec. ON, 13 sec. OFF	Swedish alarm signal	115	14
19	continuous 660 Hz	Swedish alarm signal	116	1
20	alternating 554/440 Hz in 0.5 Hz stroke (1 sec. ON / 1 sec. OFF)	Swedish alarm signal	115	19
21	pulse 660 Hz in 1 Hz stroke (500 ms-500 ms)	Swedish alarm signal	115	4
22	pulse 2,850 Hz in 4 Hz stroke (150 ms ON / 100 ms OFF)	Swedish alarm signal	110	4
23	rising 800-970 Hz in 50 Hz stroke	Swedish alarm signal	117	14
24	rising 2,400-2,850 Hz in 50 Hz stroke	Swedish alarm signal	110	4
25	970 Hz pulse.: 3 x 500 ms. ON, 500 ms OFF, break 1.5 sec.	ISO 8201 / US Temporal	118	14
26	2,850 Hz pulse.: 3 x 500 ms. ON, 500 ms OFF, break 1.5 sec.	ISO 8201 / US Temporal	112	4
27	continuous 4,000 Hz		105	6
28	alternating 800/970 Hz in 2 Hz stroke (250 ms-250 ms)		118	14
29	alternating 990/650 Hz in 2 Hz stroke (250 ms-250 ms)		117	14
30	alternating 510/610 Hz in 2 Hz stroke (250 ms-250 ms		116	14
31	rising 300-1,200 Hz in 1 Hz stroke		118	14
32	continuous Bell		117	3
33	continuous Bell: 3x500 ms. Pulse, 1.5 sec. Silence, then repeat	Bell / US Temporal	117	14
34	alternating 1,000/2,000 Hz in 1 Hz stroke (500 ms-500 ms)	Singapore	115	4
35	pulse 420 Hz (0,625 sec.)	Australian alarm signal	118	14
36	500-1,200 Hz rising in 3.75 sec., then 0.25 sec. OFF	Australian alarm signal (Evacuation)	117	14
37	rising 1,400-1,600 Hz in 1 sec., falling in 0.5 sec.	NF C 48-265	116	14
38	500-1,200 Hz rising and falling in 3 sec.	Siren	117	14
39	pulse 720 Hz: 0.7 sec. ON, 0.3 sec. OFF	German industrial alarm	118	14
40	rising 422-775 Hz in 0.85 sec., 1 sec. silence, then repeat	NFPA Whoop	118	14
41	continuous 470 Hz	Horn (USA)	114	3
42	continuous 370 Hz	Air Horn (USA)	113	3





Integrated signalling

Line*LIGHT* Fusion - integrated signalling

Your benefits

With Line*LIGHT* Fusion, WERMA offers a fully integrable signalling solution that integrates seamlessly into the main product and impresses with standardised modules from the Line*LIGHT* Fusion series as a high-quality, functional design element. The display of machine statuses is integrated as a function in the machine design, which transfers all the benefits of signalling in terms of safety, efficiency and productivity into the design of the machine.

The fully integrated solution also supports the hygienic requirements of the production environment. The precise integration into the machine surface minimises dirty edges, avoids openings and offers a high level of protection against the ingress of dust and liquids.

The homogeneous, full-surface illumination of the Line*LIGHT* Fusion modules ensures

- optimum visibility
- Reliably signals hazards or critical machine states

Optional:

- Light modules with additional acoustic warning
- Can be configured in 50 mm increments between 100 mm and 1500 mm
- Different light contours and images

Typical application

For machine and system manufacturers who want to implement a consistent machine design with an integrated signalling solution, for signalling machine statuses, on

- machines
- automation systems
- assembly systems
- Transport and conveyor belts
- All other industrial products that have a sheet metal housing

Installation options

- Screw mounting using a clip
- Adhesive mounting using industrial adhesive tape



Line*LIGHT* Fusion



Line*LIGHT* Fusion in the dimensions
100, 200 and 500 mm
with or without acoustics.
Further sizes available on request.



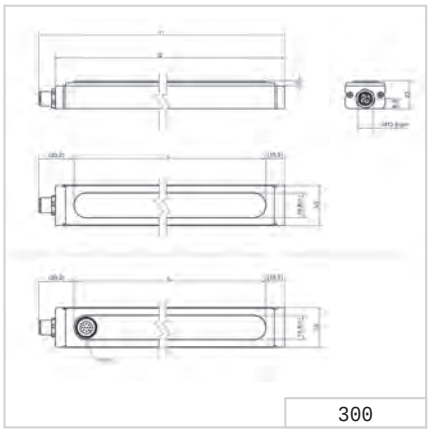
Mounting clips

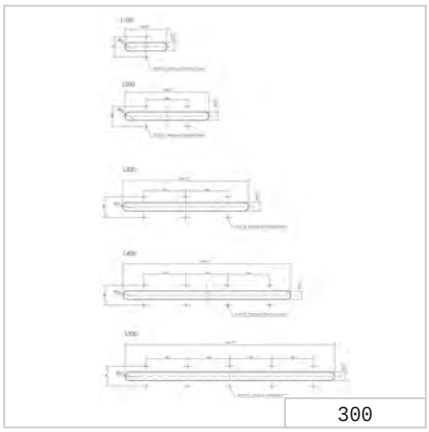
ⓘ TECHNICAL SPECIFICATIONS/ORDER SPECIFICATIONS

	100 mm	200 mm	500 mm
Dimension (L x H x W):	145 x 33 x 23 mm	245 x 33 x 23 mm	545 x 33 x 23 mm
Housing:	Aluminium, black		
Lens:	PC, transparent		
Fixing:	Installation mounting		
Connection:	M12 5-pin		
Colour options:	Red, yellow, green, white, blue, violet, turquoise (Multicolour)		
Tone type:	Pulse tone		
Voltage:	24 V DC		
With acoustic			
Clips	**300 100 02**	**300 100 06**	**300 100 10**
Tape	**300 100 04**	**300 100 08**	**300 100 12**
Current consumption:	110 mA	165 mA	325 mA
Without acoustic			
Clips	**300 100 01**	**300 100 05**	**300 100 09**
Tape	**300 100 03**	**300 100 07**	**300 100 11**
Current consumption:	100 mA	155 mA	315 mA

Individual sizes in 50 mm steps from 100 to 1500 mm possible on request.

↔ TECHNICAL DIAGRAM





300.100.01
300.100.02

300.100.03
300.100.04

300.100.05
300.100.06

300.100.07
300.100.08

300.100.09
300.100.10

300.100.11
300.100.12

121 g | 94 g | 187 g | 160 g | 416 g | 362 g | 85 dB | IP65 | +50°C | -20°C

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Systems for optimising production and logistics areas

Create transparency

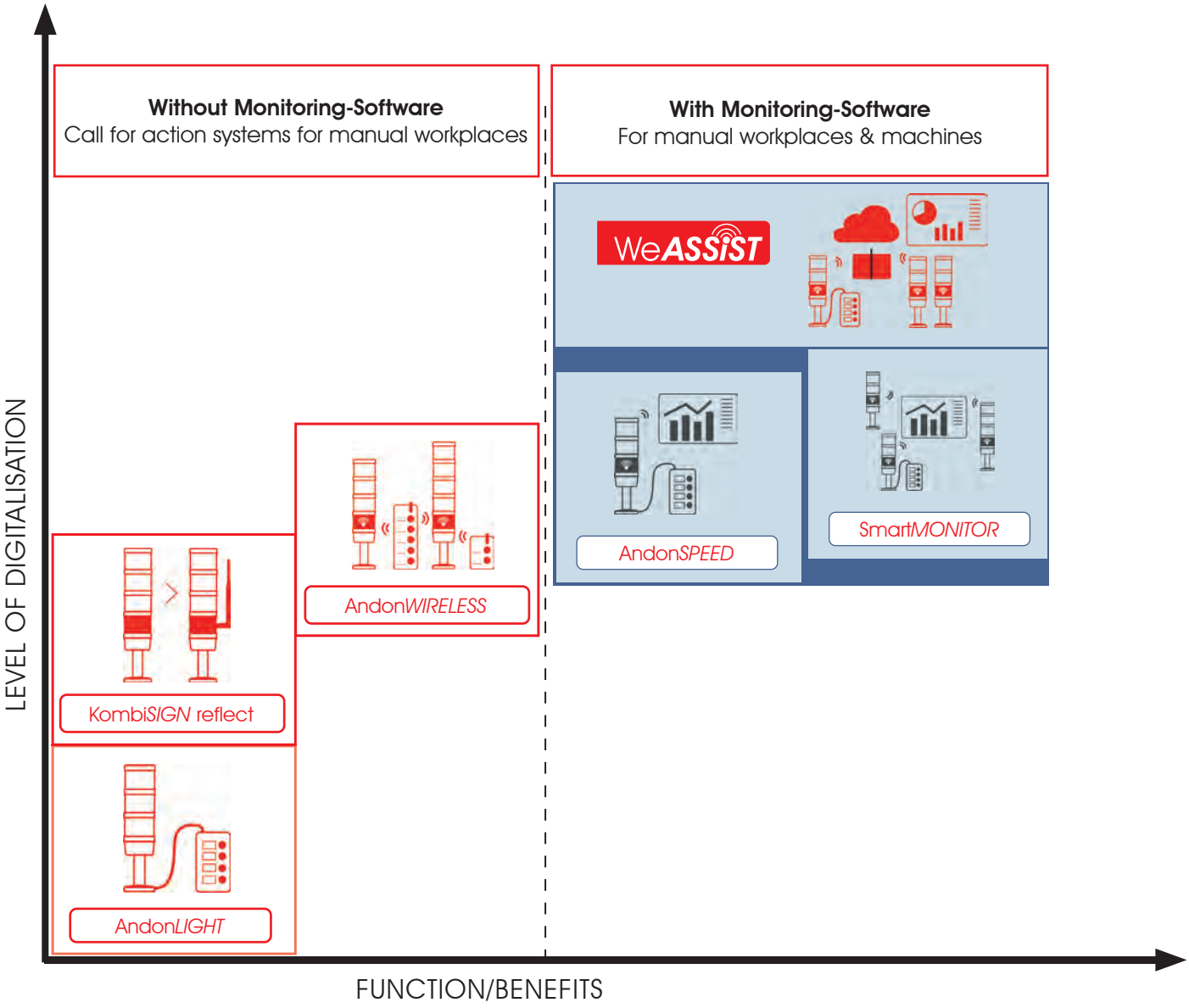
In addition to classic signal devices, WERMA offers intelligent solutions that make Industry 4.0 easy to grasp and immediately implementable in practice. Our solutions are ready-made, can be used immediately and function "out-of-the-box". Because WERMA takes signal technology a step further!

With our call for action and signal systems (Andon*LIGHT*, Kombi*SIGN* Reflect and Andon*WIRELESS*) you can quickly and easily report problems at manual workstations and control access to doors and gates without the need for monitoring software.

Thanks to our clever solutions (Andon*SPEED* and We*ASSIST*) with monitoring software, you can detect weak points immediately. To uncover hidden potential in manufacturing and logistics processes you need a system to measure unproductive times - whether at manual workplaces, dispatch stations or in automated manufacturing.

Further information can be found at **werma.com**.




Without Monitoring-Software
Call for action systems for manual workplaces
With Monitoring-Software
For manual workplaces & machines
WeASSIST
AndonWIRELESS
KombiSIGN reflect
AndonSPEED
SmartMONITOR
AndonLIGHT
LEVEL OF DIGITALISATION
FUNCTION/BENEFITS

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